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Does Dual Enrollment Impact CTAE

Robert J. Dollar

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DOES DUAL ENROLLMENT IMPACT CTAE

by

ROBERT J. DOLLAR

(Under the Direction of Paul “Mac” Brinson)

ABSTRACT

The purpose of this study was examine if legislation that greatly impacted the number of students taking dual enrollment courses in the state of Georgia was having an impact of CTAE programs in seven, rural school districts in southeast Georgia. This study employed a mixed methods research design. Quantitative data supplied by the Georgia Department of Education regarding enrollment numbers, as well as qualitative data gathered by the utilization of an open-ended questionnaire, were analyzed conjunctly to ascertain if an impact existed. This study focused on four overarching research questions regarding any potential impacts experienced with the implementation of the dual enrollment legislation known as *Move On When Ready*. They were as follows: (a) How has enrollment in high school CTASE classes changed since the passage of dual enrollment legislation? (b) How has participation in high school CTSO organizations changed since the passage of dual enrollment legislation? (c) According to CTAE educators, how has dual enrollment impacted classrooms? and (d) According to CTAE educators, how has dual enrollment impacted students’ characteristics? The study revealed that in terms of enrollment, CTAE classes had not been significantly impacted by the passage of the dual enrollment legislation. There did appear to be a positive impact by this legislation, with enrollment numbers remaining the same or with a slight increase; however, this was not statistically significant. CTAE educators overwhelmingly expressed that they had felt an impact with the passage of this legislation, although the quantitative numbers did not support their opinions. This study impacts small, rural school districts that need to conduct a deeper analysis to ascertain the reason for the disconnect between CTAE teachers’ opinions and the quantitative data.

INDEX WORDS: Dual enrollment, CTAE, CTSO

DOES DUAL ENROLLMENT IMPACT CTAE

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A Dissertation Submitted to the Graduate Faculty of Georgia Southern University

in Partial Fulfillment of the Requirements for the Degree

DOCTOR OF EDUCATION

COLLEGE OF EDUCATION

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DEDICATION

A sincere appreciation and thanks to my wonderful family. They include my wonderful wife, Sherri, and three of the best children that any person could have: Taylor, Maggie, and Walker. I could not have made this journey without your love, support, and encouragement.

I would also like to dedicate this to my extended family that has always shown me the love, support, and energy to enable me to accomplish my goals. Thank you all!

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CHAPTER 1

INTRODUCTION

Dual enrollment is a program designed to enable students who have met enrollment requirements a chance to enroll in post-secondary classes while they are still enrolled at the secondary level. Recent legislation (O.C.G.A. §20-2-161) has enabled even greater numbers of students to take advantage of the opportunities presented to them through this program. Record numbers of students are now taking college-level classes through a variety of mediums such as on-campus classes, courses offered on-site at their local high school, and/or virtual college classes. These opportunities extend to some technical areas as well. While this is advantageous to some students, it is also taking the most accomplished students out of participating in other programs offered at the secondary level, such as the opportunity to participate in a career, technical, and agricultural education (CTAE) program at the secondary level. An example of a traditional CTAE program is an agriculture class or a business education class coupled with a service organization such as Future Farmers of America or a Future Business Leaders of America. Typically, these programs include some type of work-related experience such as an internship or other supervised work experience that is related to the area of study. This provides a triangulated approach to instruction that enables the students to gain a comprehensive understanding of what that the selected field of study includes, while also fostering leadership and employability skills.

Rural systems in the state of Georgia traditionally struggle with having enough human resources to adequately provide educational opportunities to the students. Often, students are limited in the opportunities that are available for them to study because they are limited to the few programs made accessible to them by their school systems. For example, school leaders often must decide between having an agriculture program or a business program because there is not enough funding for both programs. Dual enrollment has provided some relief to both students and systems in this regard because it opens opportunities for some students that were never available before this time. However, it is essential to consider to what extent dual enrollment legislation impacts the remaining students and programs at the secondary school. It is counterproductive to the overall development of the students,

schools, and programs for one program to have a negative impact on another. To the greatest extent possible, the State Department of Education and local Boards of Education should examine programs to ensure that they are complementary to one another or, at a minimum, non-conflicting.

Limited research has attempted to analyze the impact of the dual enrollment program on CTAE programs, specifically in Georgia. This impact could influence several issues, including the number of students participating in programs or the extent to which they are participating. Further research is needed to determine whether rural systems are actually being required to make difficult decisions regarding issues such as reducing staff at the secondary level or closing programs due to lack of participation since the enactment of Move On When Ready (MOWR) legislation. Lastly, consideration should be given to teachers' perceptions of the impact that the latest dual enrollment legislation has had on the service organization component of the CTAE program.

Background of the Study

Dual enrollment and CTAE have a long and storied history in the realm of public education. Each one is viewed as an educational experience to engage students and to further develop the students through meaningful and rewarding opportunities. To better understand these educational opportunities, each *program* will be considered unique and separate; however, in actuality, there is some overlap, as a student is now afforded opportunities to matriculate at a technical college of Georgia through the dual enrollment program. To assist the reader in greater understanding of both programs, the following will provide essential background on each program.

Career, Technical, and Agricultural Education (CTAE)

Career, technical, and agricultural education is the currently used term for learning that was referred to in years past as *vocational education*. The Georgia Department of Education ([GaDOE]; n.d.) specifically identifies CTAE and the vast offerings and opportunities available to students with specific distinction and categories. The GaDOE further identifies CTAE as being a critical attribute necessary for Georgia students to be prepared for the next step in their life. Over 130 pathways are found

within the 17 career clusters currently offered through various educational institutions found at the secondary level in schools throughout the State (*Career Pathways and Clusters*, para 1).

State Departments of Education receive federal funding to support CTAE, which is then transferred to local Boards of Education through the Carl D. Perkins Career and Technical Education Improvement Act of 2006. The identified purpose of this act by the United States Congress is: “The purpose of this act is to develop more fully the academic and career and technical skills of secondary education students and postsecondary education students who elect to enroll in career and technical education programs” (Carl D. Perkins Career and Technical Education Improvement Act of 2006, para. 1).

A pathway is a sequence of three identified classes clustered together to expose students to instructional content found within the pathway. A pathway is generally comprised of an introductory course and then two subsequent classes that further provide students with greater insight into the skills, characteristics, and attributes typically found within the workforce of a given pathway. The identified purposes of CTAE by the Georgia Department of Education and the United States Congress are not new and have been found in educational settings for a long time; however, it is a challenge for CTAE in that the funds are allocated on an annual basis, which leaves uncertainty yearly as to whether the funds will be allocated. When previously identified as vocational education, this type of education was seen as an important way to develop a qualified workforce. It is essential to recall that there were a number of factors shaping the United States around the turn of the century from the 1800s to the 1900s. Immigrants from many other countries were flooding into the United States, and an emerging economy fueled by the Industrial Revolution created a unique educational need within the United States. To meet this need, the United States began passing legislation to impact education.

The policies from the Smith-Hughes Act of 1917 (the first national approval of vocational education in the public schools and known as the Vocational Education Act of 1917) increased legislation addressing vocational guidance such as *vocational education, workforce education, vocational guidance,*

employment counseling, and career guidance (Herr, 2013, p. 280). Additionally, there has been more recent legislation passed that further emphasized the overall importance of CTAE in the educational setting by providing both guidance in the form of rules and/or mandates, as well as funding. For instance, “some examples of legislation that have relevance to vocational guidance and related vocational issues include the Carl D. Perkins Act of 1984, the School-to-Work Opportunities Act of 1994, and the Workforce Investment Act of 1998” (Herr, 2013, p. 280).

The amount of legislation involved in the creation of vocational education is indicative of how important teaching students technical skills and preparing them for industrial trades is to the overall development and maintenance of the United States economy. Since the Industrial Revolution, the United States has been at the forefront of industrial development in the world, which has evolved to provide the modern technology that is utilized in every aspect of life including transportation, communication, and health advancements. Vocational education has been instrumental in those developments.

Vocational education has done much for the growth and development of the nation as a whole; however, it is essential to now consider the importance of vocational education on a smaller or individualized scale. Certainly, vocational education has had a major impact on the development of the United States and the economic strength that has occurred with this development; however, it is difficult to consider the whole without considering the parts that make up the whole. It is on the individual level that vocational education has perhaps had the most impact. Vocational education has been an important aspect of the educational experience for many students to elicit interest and engagement in a system in which students are often frustrated and disenfranchised.

Career and Technical Education (CTE) has long been held by educators as a means to reach students who are disengaged with their coursework and school in general. This has led, unfortunately, to the problem of “dumping,” where students became labeled and placed on a vocational track and assigned to schools that specialized exclusively as vocational preparation centers (Chow, Whitlock, & Phillip, 2011, p. 3). It is important to note that some, such as Chow et al., have identified that a negative

connotation has been placed on vocational education as though it was “watered down” or “less esteemed” than the traditional education associated with academic subjects or the “college bound” curriculum of high schools. While those connotations certainly did exist for many and perhaps still do in some regard, it may not be a conception shared by all. According to Lynch (2000), “The public demands and the students need relevant, contemporary career information, knowledge, and skills. Career and technical education is integral to the whole school, comprehensive reform; it is not separate from it” (p. 14). However, it is essential to realize that a true education is comprehensive and is not complete without considering a variety of ways in which students can earn and benefit. As such, one area of instructional structure is that of dual enrollment.

Dual Enrollment

Dual enrollment has also been an important component of the educational landscape for an extended period and is gaining more interest as a vehicle for educational reform and advancement. More and more, students are taking advantage of the opportunities that dual enrollment presents them as individuals in their academic career and progression.

Dual enrollment is an opportunity for a high school student to jointly earn both high school credit and college credit. This is done simultaneously and enables students to progress through their academic career at a faster pace, which many students and parents find advantageous. As is the case with nearly every program, there are advantages and disadvantages with this program, and some of these are unique to particular students participating in the program. In regard to vocational education, what may be true for one student in a specific circumstance may be completely different for another student in a similar circumstance.

Dual enrollment provides some unique opportunities for many students. In many circles, it is seen as something of a placebo to answer issues of student disengagement and motivation. Cassidy, Keating, and Young (2010) noted that dual enrollment programs can provide students with stimulating and challenging coursework that better prepares them for future endeavors. Also, “the programs promote

high school student motivation and engagement in their learning through more interesting classes, the opportunity to attend them on a college campus (in many cases), and the experience of higher expectations and success” (Cassidy et al., 2010).

Additionally, Career and Technical Education has some specific benefits for both students and programs. Karp, Calcagno, Hughes, Jeong, and Bailey (2007) indicated that dual enrollment is being offered as part of career and technical education programs as a way to increase their rigor, to prepare students for college as well as the workforce, and to enable high schools to offer career and technical education programs without purchasing expensive equipment. An early indication of the anticipated benefits of dual enrollment is the record numbers of opportunities afforded students and the number of students who are participating. While dual enrollment is not a new concept, it is gaining traction in educational circles through legislation and policies that are enabling and encouraging more students to take advantage of the program. “All states allow dual enrollment, with 46 having at least one statewide dual enrollment program established by state policies; the other four states leave programs to the discretion of local district and college policies” (Cassidy et al., 2010). Student participation is reaching all-time highs, which is another indication of the program gaining popularity with students and parents. For example, in academic year 2016, Georgia had over 27,500 students participating in dual enrollment (Mealer, 2017, p.22) .

In an effort to look beyond just the sheer numbers, there is evidence to suggest that dual enrollment is having a positive impact on student success. “Indeed, studies show dual enrollees tend to earn higher grades and are more likely to attain a college degree” (An & Taylor, 2015, p. 3). Without question, higher grades and a greater propensity to attain a diploma are relevant and noteworthy.

Both CTAE and dual enrollment have been and continue to be instrumental in the overall educational structure. In fact, in some instances, they jointly assist students to maximize educational opportunities at the high school level. This case study endeavored to explore whether there is an impact on one program because of the emerging prevalence of the other program.

Statement of the Problem

Dual enrollment and Career, Technical, and Agricultural Education (CTAE) have been an integral part of the educational process for many years. Each of these programs are viewed as being an instrumental way to motivate and engage students toward being successful in class and in life. Educators have long viewed each as avenues for students to develop necessary life and career skills essential to continued academic and lifelong pursuits. Recent legislation has enabled and promoted both programs to expand and gain prominence with students and parents alike. A developing question is whether this recent expansion is causing one program to have an effect on the other in regard to student enrollment and participation. This is paramount in all educational institutions, but especially so in smaller school districts that have limited resources. One of those resources, quite frankly, is the number of students in which it serves. In short, a system must earn the instructional resources, which is accomplished in large part through the sheer numbers of students in which it serves. Therefore, when you have a system that has a limited number of students and they have to make the educational decision between taking one class over another, the class that they elect not to take, can face severe consequences. Systems generally cannot afford to fund a teacher without the financial support of the state and the state will not fund a teacher unless they are supplying instruction for a sufficient number of students. While the more accomplished students are receiving the benefit of being able to take advantage of dual enrollment opportunities, it does leave to question what rural systems can offer to the students that remain behind.

Purpose Statement

The purpose of this study was to examine the effect dual enrollment is having on the CTAE programs in small rural systems in southeast Georgia. In particular, the system of District X (a pseudonym) was used as a central location, with six other rural school districts in close proximity evaluated to better understand the impact that dual enrollment is having on the number of students

participating in CTAE classes and CTSO organizations. While the focus of the impact in these districts was measured in terms of statistical numbers, stakeholder perception of the impact was gained through utilizing an open-ended questionnaire to gain insight from teachers and service organization sponsors from neighboring rural school districts. This information was important to substantiate statistical information, as these individuals have direct insight into any impact felt at the grassroots level.

Research Questions

This study focused on rural school districts in the southeastern part of Georgia. Statistical information regarding enrollment and graduation were obtained from records maintained by the state of Georgia of the systems that agreed to participate in the study. Additionally, participants were asked perception questions regarding the impact that dual enrollment legislation has had on current programs and offerings. Specifically, the perception questions were centered on the legislation known as the new *Move On When Ready Act of 2015* (MOWR). The researcher analyzed the following overarching research question: What impact has dual enrollment legislation had on CTAE programs? To be able to answer this question with a degree of confidence, the following sub-questions were addressed through analysis of data and utilization of an open-ended questionnaire administered to primary adult stakeholders:

1. How has enrollment in high school CTAE classes changed since the passage of dual enrollment legislation?
2. How has participation in high school CTSO organization changed since the passage of dual enrollment legislation?
3. According to CTAE educators, how has dual enrollment impacted classrooms?
4. According to CTAE educators, how has dual enrollment impacted student characteristics?

This study sought to determine if there was a correlation between more students taking dual enrollment classes and the number of students fully participating in CTAE programs at the high school

level. Of interest to the researcher was if any impact does exist, whether that impact is having a subsidiary impact on other students at the high school level.

Significance of the Study

Dual enrollment has received much attention since the MOWR Act was enacted by allowing an increased number of students to participate in this program. For example, students in the ninth and tenth grade are now potentially eligible to participate in dual enrollment classes. The benefits of participation are being touted in a variety of ways from advertisements by the Georgia Department of Education, technical colleges, community colleges, senior level colleges, and high schools. Parents are exposed to the financial benefits such as the following, “Tuition, materials, fees and possibly books are paid through MOWR funding” (Georgia Department of Education, 2019, p. 1). In addition to immediate financial benefits for parents, there are further long-term benefits in that any credit hours earned by dual enrolled students do not count against the 127 semester or 190 quarter hour limit that is imposed by the Zell Miller or Hope Scholarships (*Hope and Zell Miller Scholarship Programs*, para 5).

A considerable amount of research has centered on the benefits that both CTAE and dual enrollment have on students. Both programs have been cited as being influential in student success and increasing student engagement; thus, each are noted as being important factors in student development. What has not been researched is the effect one program has on the other, especially in small, rural school districts. Students can accommodate a limited number of opportunities within their schedules and many of the top students have to make decisions regarding what they will or will not be able to participate in during the school day. This study may serve as a blueprint for other small, rural systems that are facing these or similar circumstances. Lastly, it was an opportunity for District X to begin to analyze their own programs and begin to consider professional development opportunities for CTAE teachers and CTSO advisors who teach these students, as well as guidance counselors who are oftentimes faced with academic advisement for these students. Other populations that could be impacted by the introduction of

this legislation would be Honors and/or AP classes and athletic teams, as sometimes students may have to deliberate between participation in dual enrollment and/or these activities or classes.

Procedures

The purpose of this study was to determine if new legislation that had been enacted by the State of Georgia concerning student enrollment in both secondary and postsecondary institutions at the same time is having an impact on CTAE programs at the secondary level. The study analyzed any changes that existed in student enrollment numbers at seven small, rural school districts in southeast Georgia. Student enrollment was tracked over eight academic years that is inclusive of five years prior to and three years since the passage of legislation previously known as *Move On When Ready*.

This information provided some insight into a possible impact, if one existed, and this study was strengthened by questioning adult service providers at the high school level. This study incorporated an open-ended questionnaire administered to service providers in seven rural school districts to better understand what service providers are observing and experiencing at the service level. This provided greater detail and validity to the study and was instrumental in providing substance to any speculation that might be drawn from any observed differences in student enrollment.

Definition of Key Terms

For the purposes of this study, the following key terms are defined:

Career, Technical, and Agricultural Education Classes (CTAE): CTAE is an acronym that stands for Career, Technical, and Agricultural Education classes. Previously, these classes may have been identified as Vocational Education classes. For the purposes of this study, CTAE classes will be limited to the 17 Career Clusters identified by one of the Georgia Department of Education's acceptable course codes located on their website and offered at the high school.

Career Technical Service Organization (CTSO): CTSO is an acronym that stands for Career Technical Student Organization. The Georgia Department of Education CTAE website identifies eight

organizations that enhance and are equally important in the instructional content delivered to students participating in CTAE classes.

Dual enrollment: Dual enrollment is a program in which a student is jointly enrolled in both a secondary and a post-secondary institution simultaneously. This enables enrolled students to receive credit from each institution. For the purposes of this study, dual enrollment will be inclusive of a student being enrolled in any secondary and postsecondary institutions at the same time as defined by the Georgia Department of Education. Further, it is irrelevant to this study if the student is taking the postsecondary class on the high school campus, virtually, and/or on the postsecondary institution's campus.

End of Pathway: Students are required to complete a sequence of three interrelated classes in order to complete a pathway in the state of Georgia. The sequential classes that enable a student to complete a pathway are identified by the Georgia Department of Education, which also identifies the standards and elements that students must know, understand, and be able to do. For the purposes of this study, students will be identified as being pathway completers when they have successfully taken and passed the three classes that comprise a pathway.

Technical College System of Georgia (TCSG): The Technical College System of Georgia consists of 22 colleges offering technical education, custom business and industry training, and adult education programs. For the purposes of this study, classes taken through the TCSG programs will only be considered post-secondary classes.

Chapter Summary

Dual enrollment and CTAE have been two critical programs instrumental in educating American society for many years. Each program is credited with providing invaluable educational opportunities that promote and enhance engagement, while also developing critically needed skills for further post-secondary training or career development. Recent legislation has made dual enrollment opportunities available to a greater number of students and made it financially advantageous by mitigating or

eliminating costs associated with earning college credit for parents of students participating in dual enrollment. As students determine which course of study in which they will participate, they are limited by schedule challenges that may force them to be participatory in one program and not allow time to be participatory in the other program.

The purpose of this case study was to examine the impact that recent legislation identified as the Move on When Ready Act is having on small, rural school districts. The research for this study included seven rural school districts in Georgia. Data were analyzed based on factors such as the percentage of students taking one or more CTAE classes, CTAE concentrators, CTAE concentrators graduation rate, CTSO membership, and dual enrollment for the identified districts. In addition, questionnaires were created to survey CTAE teachers and CTSO advisors.

CHAPTER 2

REVIEW OF THE LITERATURE

Defining Career Technical, and Agricultural Education is an important tenet in the development of this study. Scott and Sarkees-Wircenski (2001) said, “Career and technical education is a large and diverse educational enterprise spanning both secondary and postsecondary education. It encompasses a tremendous number of programs designed to prepare students for employment and living” (p.2). Coupled with the size and diversity of the programs designed to meet individual student needs is the overarching purpose of CTAE. This purpose evolves over time as specific needs arise. An important early work on the topic that identified the direction that both the nation as a whole and the state of Georgia has evolved is the statistical analysis report conducted by Levesque, Lauen, Tietlbaum, Alt, and Librera (2000). This report provides insight into what the current purpose of CTAE has become over time.

With the advent of the 21st century, vocational education in the United States is in transition.

Historically, the purpose of vocational education has been to prepare students for entry level jobs in occupations requiring less than a baccalaureate degree. Over the last 15 years, however, this purpose has shifted toward broader preparation that develops the academic, vocational, and technical skills of students in vocational education programs. This preparation involves integrating academic and vocational education, emphasizing all aspects of industry, and implementing academic performance measures, among other reforms. (p.iii)

In the development of this study, it is essential to understand what CTAE is in its present form. Each state has a CTAE component and while each state develops that component in its own way, most states utilize the National Career Cluster Model as their basis. This model is a framework for instruction that utilizes career clusters to assist students in their journey to becoming college and career ready. This framework is an essential component of the Advance CTE State Leaders Connecting Learning to Work Organization that is composed of state leaders in the area of career and technical education. The national framework currently includes the following:

The National Career Clusters® Framework provides a vital structure for organizing and delivering quality CTE programs through learning and comprehensive programs of study. In total, there are 16 Career Clusters in the National Career Clusters Framework, representing more than 79 Career Pathways to help students navigate their way to greater success in college and career (Illinois Community College Board, n.d., para. 2).

The 16 clusters are comprised of the following: Agricultural, Food & Natural Resources, Architecture & Construction, Arts, A/V Technology & Communications, Business Management & Administration, Education & Training, Finance, Government & Public Administration, Health Sciences, Hospitality & Tourism, Human Services, Information Technology, Law, Public Safety, Corrections & Security, Manufacturing, Marketing, Science, Technology, Engineering & Mathematics, and Transportation, Distribution Logistics. The Georgia DOE has added an additional cluster entitled *Energy*.

Each cluster includes subsets or areas of specificity which fall within the greater dynamic of the cluster. While each subset will not be identified here, an example would be the cluster Education & Training which has the subsets of Administration & Administrative Support, Professional Support Services, and Teaching/Training.

The importance of these clusters lies in how the specific clusters, their subsets, and the standards and elements identified within them were identified. The clusters, along with the subsets, standards, and elements, were identified through partnerships with postsecondary partners, as well as industry leaders.

History of CTAE

The history of career and technical education is steeped in meeting the current demands of American society. Beginning with the passage of the Smith-Hughes Act in 1917, the federal government has consistently demonstrated their recognition that career and technical education is a viable and meaningful means to meeting important needs. The following synopsis of the various legislation that has been passed is derived from an article written by Impetore (2017):

- 1917-Smith-Hughes Act: First federal investment in vocational education

- 1936-The George Dean Act of 1936: Appropriated 14 million per year in federal funds
- 1946-George-Barden Act of 1946: Added federal funding for FFA and New Farmers of America
- 1956-George-Barden Amendments of 1956: Added funding for area vocational centers
- 1963-Vocational Education Act of 1963: Funding was revised to represent student population, as opposed to specific areas of study. Also included monies specifically for economically and disadvantaged and disabled students
- 1968-The Vocational Education Amendments of 1968: The first time that postsecondary students were recognized in funding through vocational legislation
- 1976-Vocational Amendments of 1976: Equal opportunities for females
- 1984-Carl D. Perkins Vocational Education Act of 1984: Vocational Education Act renamed
- 1990-Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990: Legislation embraced secondary and postsecondary alignment
- 1994-School to Work Opportunities Act: Connected work-based and school-based learning
- 1998-The Carl D. Perkins Vocational and Technical Education Act of 1998: Continued 1990 Act's focus on alignment and integration of curriculum
- 2006-Carl D. Perkins Career and Technical Education Act of 2006: Vocational education is taken out of wording
- 2016-Strengthening Career and Technical Education for the 21st Century Act: Affords local systems more flexibility to meet specific community needs.

While this list represents some of the major innovations that have taken place over the past 100 years, it is not intended to be absolute or complete. The key is that it is evidence of the federal government's continued recognition and financial support to utilize federal monies to meet specific national needs. Boettcher (2017) provided the following as a means of illustrating this point

In the 1920s, vocational education programs were implemented with the nation's defense in mind; in the 1930s, these programs focused on unemployment; and in the 1940's, their primary

goal was on workforce development in the context of the war effort. In the 1980s, vocational education began to evolve into what we now know as CTE; courses began to focus less on preparing high school students for direct entry into full-time employment and more on preparing students for a successful career path that covers both certification and post-secondary education. (Boettcher, 2017)

This point is further illustrated by former U.S. Secretary of Education Arne Duncan when in 2011, he emphasized that the goal of CTE education should be that “students earn a postsecondary degree or an industry-recognized certification and land a job that leads to a successful career” (U.S. Dept. of Education, 2011, para. 6).

Perceptions of CTAE

In life, individuals often encounter circumstances in which what is real and what is believed to be real are two separate entities; yet, that which is believed to be real will prevail. Countless philosophers have spent infinite hours exploring the topic of perception and trying to accurately define what it is and what it means to us as individuals. English writer Penelope Fitzgerald is considered one of the premier English writers of latter part of the 20th century. She is credited with saying, “No two people see the external world in exactly the same way. To every separate person a thing is what he thinks it is---in other words, not a thing, but a think”. With this thought process in mind, it is essential to explore perceptions of stakeholders that are intricately involved in the delivery and reception of career and technical education.

Principals’ Perceptions

In the tenets of instructional delivery, principals play a vital role in what and how students receive instruction. Their position of authority, especially in regard to the evaluative process, enables them to influence both directly and indirectly what is taught and how it is taught. While that concept has existed for years, a concrete example includes a study conducted by Quinn (2002) that corroborates that concept. In his study, Quinn's results supported the idea that leadership indeed impacts instruction. An interesting work compiled by Rayfield and Wilson (2009) out of North Carolina State University provided great

into principals' perceptions of the supervised agricultural experience, which is an essential component of agricultural education, and the integration of FFA specifically. The primary reason for this work's interest in this section is because each of the areas of career and technical education contain a similar service organization and a similar project or internship designed to solidify concepts learned in class and their practical application in the real world. Hence, it is a simple connection to principals' perceptions on career and technical education.

Their study aimed at finding the perceptions possessed by principals regarding the importance and quality of SAE. Further, their desire was to see whether a principal's prior connections to career and technical education, as well as the location (rural vs. urban), had an impact on the principal's perceptions. Findings suggested that regardless of prior experiences and location, principals resoundingly found value in the SAE project. In a study conducted by Haussman (2012), results indicated that principals have positive perceptions regarding the quality and importance of career and technical education. In his study, he concluded that administrators were confident that students participating in career and technical education courses were prepared for college entrance. Seemingly then, administrators have a positive perception regarding the value of career and technical education as a component of instruction within their schools.

Counselors' Perceptions

Counselors play an integral part in the class selection of students as they prepare for another semester or another year of instruction. Counselors work closely with students, parents, teachers, and administrators to ensure that students meet requisite needs for graduation, but more importantly, that focus on meeting the needs of the student for future endeavors. Thus, counselors must have a thorough knowledge of the needs of the individual students and the programs that would marry the student's interests, abilities, and goals. In a study conducted by Finlayson (2009), middle and high school counselors were surveyed to determine their perception of CTE courses. She found that middle and high

school counselors in the state of Tennessee had a favorable impression of career and technical education. In a similar study, Pierce (2017) concluded that middle and high school counselors valued career and technical education. Based on these studies, it would appear as though both principals and counselors have favorable perceptions of career and technical education.

Students' Perceptions

Thus far, all the identified stakeholders indeed play an integral part in the overall value and merit placed on CTAE. They help to shape and define much of what CTAE is and what it represents. However, none of them are perhaps more important than the students themselves. The students' perceptions, although surely shaped by some of the previous stakeholders, is tantamount to the perception regarding the value of the experiences they share within the confines of the CTAE classroom. Therefore, it is essential that student perceptions are captured within this literature review. Gentry, Peters, and Mann (2007) attempted to gauge the differences in perception between what they deemed general students and talented students. They had teachers of various CTAE programs identify the students by utilizing a scaling system. The researchers then interviewed the students to gauge the perception of each group to determine if different perceptions existed based on students' perceived abilities. The results were telling in that both groups of students viewed their CTE experiences in a favorable manner, while they did not have favorable feedback on their traditional high school classroom experiences. The researchers found four major themes, including "autonomy, effective, caring teachers, students with similar interests, and relevant content in an applied setting" (Gentry et al., 2007).

Negative Perceptions

As was previously mentioned, it is important to remember that with any given topic, one can find both favorable and unfavorable points of view. While the review of literature has thus far focused on the positive viewpoints of various stakeholders, there are also negative perceptions to be found within the literature.

Gammill (2015) focused on one teacher's experiences when she made the transition from teaching high school English to teaching a CTE pathway entitled Teaching as a Profession. It is included here because it is representative of what CTE teachers occasionally encounter when dealing with various stakeholders. When Gammill shared with her colleagues that she was changing her teaching responsibilities, she found, "In their eyes, I had downgraded from a rigorous academic course to an easy (and therefore unimportant) one that wasn't even required for graduation" (Gammill, 2015, p.1). To emphasize this point even further, she shared that on a personal note, when her own daughter desired to go to culinary school, she (the author) required that her daughter earn a college degree first and then she could pursue a culinary degree. She shared how she or some of her new colleagues experienced similarly negative experiences with counselors and parents. One such experience was when a parent had not allowed his son to take a CTE course because "vocational classes are for stupid kids" (Gammill, 2015, p.1).

Jones, Williams, and Gill (2017) interviewed students from four countries – Bangladesh, Nepal, Honduras, and Haiti. The purpose was to identify their perceptions on agricultural education. The primary interest was in students that were now studying in the United States, and to gauge the students' perceptions because agriculture is especially essential in countries that are not as industrialized as the United States. The researchers found that:

Across the four countries, students discussed how agriculture as an occupation is considered to be low-skilled, and not prestigious, lucrative, or reliable. Agriculture, especially smallholder and subsistence agriculture, is perceived as requiring little or no formal education, which means that parents in rural areas often place little emphasis on education if they plan for their children to end up helping with the family farm. (Jones et al., 2017)

The students went on to share that agricultural occupations have little social or familial prestige within their country and therefore was not a desirable educational pursuit.

Pedagogies

At the core of what educators do is their desire to expand their students' understanding of certain topics. How they do this is almost always a challenge and something that educators strive to improve and master routinely. In point of fact, the definition of pedagogy, according to G. Stanley Hall "is a general designation for the art of teaching" (Hall, 1905, p.375). While each teacher must find their own style and presence, many different academic disciplines have formats that they endorse. For example, many math teachers advocate the usage of the Six Elements of an Essential Math Lesson as a formula for successful instruction. Other academic disciplines advocate other instructional models. This section focuses on scholarly literature related to pedagogical formats for CTAE.

CTAE Teaching Pedagogy

Many CTAE teachers utilize the problem-solving approach in their teaching. British theorist Kirron is credited with saying, all people problem solve, and problem solving is the key to life. While others may surely argue that other things are the key to life, there is certainly value in the ability to problem solve. One of the primary reasons why utilizing the problem-solving approach method is effective is because it facilitates active engagement by students. "Student engagement is maintained when coupled with highly qualified, caring teachers who use a contextualized curriculum that connects ideas and skills to student's past knowledge and experience" (Igo, Moore, Ramsey, & Ricketts, 2008, p. 52). The more connected to the content that a student feels, the more likely the student is to retain and conceptualize the content. This in turn leads to the likelihood that the student can then utilize the information during essential times. "Important is the transferability of the content and the process to those uncontrolled situations of the real world" (Igo et al., 2008, p. 53).

Igo et al. (2008) narrowed down the structure of problem-based learning to enabling students to go through the following cognitive steps:

1. Initial analysis of the problem and activation of prior knowledge through small-group discussion.

2. Elaboration on prior knowledge and active processing of new information.
3. Restructuring of knowledge and active processing of new information.
4. Social knowledge construction.
5. Learning in context.
6. Stimulation of curiosity related to presentation of a relevant problem.

As one considers the steps identified above, it is difficult not to see the connection to the idea or concept of constructivism. Constructivism is a theory that advocates that people learn through experiencing things and internally conceptualizing them. In turn, when they encounter new things, they then compare and contrast them with things with which they already familiar.

Another pedagogical concept incorporated by CTAE teachers is that of experiential learning. As further discussion of the literature regarding experiential learning unfolds, an overlap of certain ideas will occur. It should also become evident that certain academic concepts work in tandem with one another, complementing each other as the student engages in the work. The various curricula that are employed in CTAE classes allow for the utilization of both the experiential and problem-solving approaches. In fact, they assist students in their quest to become college and career ready.

Stone (2014) applied the following framework for creating a definition to what college and career ready means.

To be college and career ready, they argue that a high school graduate must have mastery of three kinds of skills. Academic knowledge is the most obvious, especially the occupational expression of academic; the ability to use academic knowledge to solve authentic problems. The second skill set includes two kinds of employability skills, often called “soft skills”. These skills range from basic understanding of how to act in an adult environment (e.g., work in teams, interact with supervisors) to good oral and written communication skills to more complex behavioral attributes like persistence and diligence. Finally, career readiness requires technical skills. These are unique

to specific occupational pathways and are usually certified through an industry recognized credential (certificate, diploma, degree). (p. 24)

Andragogy (Adult-Centered)

Time has been spent on the pedagogy that is endorsed as a being most effective within the CTAE classroom. It is also important to gain an understanding of the difference between pedagogy and andragogy. Andragogy is defined as the method and practice of teaching adult learners – adult education. A review of the literature would be negligent if it did not include this important concept central to 21st century instruction of adult learners.

While the general concept of andragogy had been utilized in Europe for a number of years, it was not until Malcolm Knowles (as cited in Smith, 2002) began writing and emphasizing its value to adult education that the concept proliferated in the United States. Knowles' basis for making a distinction between pedagogy and andragogy was rooted in his believe that adults learn differently than children. Smith (2002) indicated that there are four critical assumptions about the characteristics of adult education made by Knowles and they are as follows:

1. Self-concept: As a person matures, his self-concept moves from being a dependent personality toward one of being a self-directed human being.
2. Experience: As a person matures, he accumulates a growing reservoir of experience that becomes an increasing resource for learning.
3. Readiness to learn. As a person matures, his readiness to learn becomes oriented increasingly to the developmental tasks of his social roles.
4. Orientation to learning. As a person matures, his time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his orientation toward learning shifts from one of subject-centeredness to one of problem centeredness.
5. Motivation to learn: As a person matures, the motivation to learn becomes internal.

As with many theorists, Knowles (as cited in Smith, 2002) received his fair share of criticism. When people began analyzing his thoughts, over time, he somewhat altered his perspective. According to Clapper (2010), “Knowles changed his position to recognize that the assumptions about andragogy are situation-specific and not unique to adults” (p. 8). Additionally, Clapper credited Knowles with addressing motivation as a form of internal discipline in understanding why an adult learner approaches learning. Further studies that address participation have demonstrated a clear link to the roles of the worker, the family member, and others as being primary to the learner’s readiness to learn (Merriam et al., 2007).

Regardless of how one credits or discredits Knowles, it is Knowles who receives the most credit for laying the foundation for how adult learning is considered today. Its evolution has led to the following framework that is used as a guide for adult teaching and learning. Storey and Wang (2016) credited Barth with that framework:

1. Adults need to know why they need to learn something before undertaking to learn it.
2. Adults have a self-concept of being responsible for their own decisions, for their own lives. Once they have arrived at that self-concept, they develop a deep psychological need to be seen by others and treated by others as being capable of self-direction.
3. Adults come into educational activity with both a greater volume and a different quality of experience from youths. By simply living longer, they have accumulated more experience than they had as youths.
4. Adults become ready to learn those things they need to know and can do to cope effectively with their real-life situations.
5. In contrast to children and youths’ subject-centered orientation to learning, adults are life-centered in their orientation to learning.
6. Although adults are responsive to some external motivators, the most potent motivators are internal pressures.

Much of the literature centers on the principles that are demonstrated in both Knowles and Barth's assumptions and frameworks. For example, Clapper (2010) advocated the utilization of simulation to promote experiential, active learning. He further elaborated by saying that "educators might be advised to put aside the PowerPoint slides and instead use the power of project-based learning and various cooperative learning techniques to get the learners actively involved in constructing their own learning" (Clapper, 2010, p.10). A case study conducted by Muduli, Kaura, and Quazi (2018) involving postgraduate business students from India addressed the contrast between pedagogy and andragogy directly by utilizing questionnaires to determine student's preferred learning styles. The desired outcome of the study was to determine if there was a statistically significant difference in perceptions about pedagogy and andragogy. Results of the study found that Indian postgraduate business students preferred adult learning techniques. More telling was the students' insight as to why they had a preference in the instructional model utilized to teach them. The students believed that "andragogy would be the more appropriate approach to address their learning needs as well as the needs of their future employers" (Muduli et al., 2018 p. 7).

Perceptions on Dual Enrollment

There are many variables that exist when the concept of dual enrollment is explored. This review of the literature has tried to be inclusive of many of those variables in the overall process of dual enrollment and it is appropriate to analyze the literature on faculty perceptions on dual enrollment. It is important to consider this variable because of the direct impact that the professor has on the overall experience that the dual-enrolled student has during this process. It is also important to understand that each individual experience and everyone's perception of that experience is unique in its own right; however, most of the literature currently available indicates negative perceptions on behalf of faculty members when the topic of dual enrollment is studied.

Faculty Perceptions on Dual Enrollment

Koelling (1997) discussed various conversations that he heard fellow faculty members sharing. He set the scene by saying, “I’m in Cheyenne on a recent Saturday morning, meeting with English faculty from the university and the community colleges. We are talking about concurrent enrollment. The atmosphere is charged and the conversation crackles with anger, disbelief and graveyard humor” (p. 2). His descriptive words of anger, disbelief, and graveyard humor are indicative of the perceptions that a review of the literature on the specific topic has revealed. He continued to discuss one of the stories shared within the group in which, “one story tells of the high school that asks the college to lower its placement standards when only two out of 25 students qualify for a college calculus course. If our students can’t clear the bar, lower it” (Koelling, 1997, p. 2). This provides a clear indication that often educators that provide dual enrollment instruction do not find the students participating in dual enrollment to be fully prepared for the level of rigor and independence required to be successful.

Other studies that have been conducted revealed a similar strand of perceptions regarding the dual enrollment process. It seems that the concern is almost always on behalf of the students themselves. For example, in a study conducted by Ferguson, Baker, and Burnett (2015) regarding faculty members’ perceptions on rigor, the authors revealed the following as part of their desire to conduct the study.

If dual enrollment course rigor is not on par with that of traditional college courses, the less rigorous dual enrollment courses, while representing an opportunity for significant cost savings, could put students at a distinct disadvantage, rendering these students less likely to succeed in traditional college courses and, hence, less likely to complete four-year degree. (p. 83)

The qualitative study by Ferguson et al. (2015) sought to compare faculty perceptions regarding course rigor by focusing on three distinct groups. The groups included: (a) faculty members that were adjunct professors that taught at the high school, (b) college faculty that taught dual-enrolled students that were taught on the college campus, and (c) college faculty that taught regular community college students on the community college campus. Rigor was determined by an analysis of grading requirements on

course syllabi and interviews to determine faculty perceptions of students' behaviors and dispositions. The researchers concluded that while faculty perceptions of the academic readiness of the students were generally positive, the perception of the faculty members regarding the students' affective readiness was negative. In short, the researchers found that the faculty thought students in dual enrollment programs may be academically prepared, but they were not mature enough to prepare for college. Similarly, a study conducted by Schwartz (2016) regarding teacher perception regarding acceleration, of which dual enrollment is a classification, found that "the majority of teachers indicated that students who are accelerated would not thrive socially" (p. 2).

As previously mentioned, a negative perception is not the feeling of all faculty members, especially when it comes to faculty members charged with the recruitment of new students. Colleges and universities are competitive in nature and when there is a shortage of students, programs, and sometimes entire colleges, cease to exist. Therefore, it is sometimes essential that colleges actively seek students, and concurrent or dual enrollment can be a viable option regarding recruitment. Helfgot (2001) highlighted the relationship enjoyed by Cerritos College in California and the local communities in which it serves. At the time that the article was written, the competitive nature for community colleges in California was intensified because community college in California was tuition-free and students were no longer held to an old law that they must attend their own local community college to receive the tuition waiver. In short, community colleges in California no longer held a "reserved" pool of students from which to draw. According to the author, Cerritos made a concerted effort to strengthen their relationships with the high schools that they served and one way in which they were able to do that was through a positive dual enrollment experience with their local high schools. Cerritos offered the experience of teaching the dual enrollment courses to their best professors and it had a positive impact.

Most often, these teachers eagerly agree to do so. Thus, the high school students (including those at the most academically rigorous high schools in the district) have experienced great teaching from great professors. They know it and tell others. Word of mouth is powerful, and positive

words from academically talented students do much to enhance the college's image and reputation (Helfgot, 2001, p. 49).

Benefits of Dual Enrollment

A review of the literature has revealed that the benefits of dual enrollment have been a highly explored topic to date. Studies have consistently demonstrated that there are several benefits to students participating in dual enrollment experiences. As Puyear, Thor, and Mills (2001) attested in their work regarding concurrent enrollment in the state of Arizona, the primary benefits center around acceleration towards the attainment of a degree and leads to a smoother transition to college. Interestingly, they also contended that concurrent or dual-enrolled students perform on an equal or better level as students enrolled at the “traditional” age, and that concurrent or dual enrollment is equally beneficial to students beyond limiting the experience to only high achieving students.

One concern that society as a whole and educators in particular are always weary of is whether or not programs are equally accessible to all students. In the myriad of events, litigation and legislation that has evolved over time, it is apparent that Americans believe that programs of benefit should be accessible to all. Although this is the prevailing belief in American society, this is not always the practice, which is evidenced by the need for landmark court decisions such as *Brown versus the Board of Education* and legislation such as the Americans with Disabilities Act. These are just a couple of examples, but they are a clear indication that equality is important when it can be achieved. Many of the studies that have been conducted have centered around the effectiveness of dual enrollment to sub-groups.

One such study was conducted by An in 2012, who was interested in analyzing whether students of lower socioeconomic backgrounds benefitted from dual enrollment experiences equally as well as students from higher socioeconomic backgrounds. His rationale for the study stemmed from work that had determined that students who came from families that had higher socioeconomic standing were better supported in educational pursuits than students that came from lower socioeconomic backgrounds. The genesis of his rationale centered on studies that had determined that lower socioeconomic parents tended

to relinquish educational responsibilities and foster those that focused on natural growth, including providing love, food, comfort, and safety (An, 2012). His study revealed that participation in dual enrollment provided academic benefits, including higher GPAs in the first year and a reduced need for remedial classes upon entering college on a regular basis. His work is reviewed here because it also demonstrated that students from lower socioeconomic families benefited equally as well as students from higher socioeconomic families.

A study conducted by Allen and Dadgar (2012) focused specifically on students who participated in the City University of New York's dual enrollment program entitled College Now. The researchers were interested in determining if they would find that participants would realize a higher GPA in their first year in college and attain more credits than the traditional student. The researchers understood that while this program was open to all the high schools in the area, some high schools generated much greater degrees of interest in the program as measured by student participation. In an effort to consider some of the variables that might limit some students from participating, the researchers conducted a difference in differences approach to achieve quasi-experimental results. Their efforts were intended to compare their initial findings with the new results to determine if differences existed.

The similarities between our regression and our quasi-experimental results suggest that, when studies can control for measures of preprogram achievement, their results closely approximate more sophisticated analyses that account for some of the unobserved differences among students. In other words, using preprogram proxies for ability and achievement including state Regents scores, grades in the eighth grade, and SAT scores seems to capture the differences in student's ability, motivation, and preparation that lead to college achievement (Allen & Dadgar, 2012, p. 19).

Allen and Dadgar's (2012) work lead to another topic worthy of consideration and inclusion in this literature review, which was whether students felt like they were prepared and capable of handling the course work required in a college class taken through dual enrollment. Ozmun's (2013) work relates

to the previous two topics in that he has analyzed college and academic self-efficacy as an antecedent for dual enrollment. Much like the previous two authors, Ozmun demonstrated an interest in studying the benefits of dual enrollment for the student. However, his real interest lies in how much the student's innate self-efficacy relates to those benefits. In other words, he hoped to determine whether program participation or the intrinsic motivation of the student had the bigger impact on a student's performance. In the course of the study that he conducted, he utilized measurement instruments such as the College Academic Self-Efficacy Scale and the College Self-Efficacy Inventory to measure participants' levels of academic self-efficacy. Interestingly, he found that while students that participated in the program professed high levels of academic motivation, most of the participants felt ill-equipped to handle college level work. From that information, the author then surmised that:

If high college and academic self-efficacy were not factors in these high school students' decisions to enroll in college-level course work, then that might imply that within the dual-credit programs themselves. This may imply that the transition function played by dual-credit programs might be more pronounced and play a greater causal role than this researcher originally estimated. (Ozmun, 2013, p. 69)

Negatives Attributes of Dual Enrollment

The scholarly literature is replete with discussions of many positive benefits of dual enrollment. When high school students can earn college credit, many people applaud this initiative as being effective and productive. Our nation has long held dear the idea that the more educated that our society is, the better our society will become. Additionally, students have been informed for many years that the more education that they receive, the more likely they are to earn higher wages. However, there are negative attributes that come with dual enrollment. This is perhaps especially true due to the rate of proliferation of participation that has occurred in dual enrollment.

Harwin, Lewandowski, and Sparks (2016) highlighted the difficulty that many students encounter when they try to transfer credits that they earned through dual enrollment. Many students have been sold

on having earned college credits, only to learn that the credits are not recognized at the institutions in which they hope to continue their education. In an interview with Melinda Karp, Assistant Director of the Community College Research Center at Teachers College of Columbia University, Harwin et al. (2016) sought to uncover problems that students that participate in dual enrollment encounter. According to Karp, this particular problem appears to be significant. “Accumulating credits that ultimately don’t transfer or apply to a major can put students at risk to drop out or use up their lifetime maximum of Pell grants” (Karp, as cited in Harwin et al., 2016, p. 12).

As dual enrollment has evolved, effort has been made to combat the problem of non-transferable credits by various means. For example, students at the University of Connecticut participating in the dual enrollment program have a safety net in that “students who earn a C or higher receive credit for their UConn courses. If a D or below, the grade converts to an audit on their transcript” (Loveland, 2017, p. 34). This safety net clause is aligned to UConn’s transfer credit policy.

Of primary interest to many K-12 educators is the overall safety of the students with whom they have been entrusted. Standards and elements may be the criterion of curriculum that the state has imposed upon schools to teach the students, but the well-being of the student supersedes any curriculum concerns. One of the central concerns of dual enrollment is the vast degree of difference in ages between students participating in dual enrollment courses and their new peers at the college level. Azinger (2000) emphasized this distinction by stating:

K-12 educators need the assurances that the community colleges will treat students in a manner that demands responsibility but still recognizes that those students are not adults and therefore carry with them the additional needs that accompany teenagers who are attempting to learn what it means to be an adult. This entails much closer supervision of students (even high school aged students) than would normally be expected at a community college level. (p. 19)

Lugg (2000) further emphasized this point by focusing on the differences in the standard of care that is inherently different, given the two age groups. She continued by indicating that the need to

understand the burden of care is a reciprocal process for college professors especially if they are delivering instructional services in the high school setting. Regardless of whether the student is receiving instruction on the college campus setting or receiving that same instruction on the high school campus, the needs of that student needs to be addressed appropriately.

CHAPTER 3

METHODOLOGY

Recent legislation formerly known as *Move On When Ready* has made dual enrollment a logical and practical opportunity for more high school students than ever before. These opportunities often force students to make critical decisions regarding what classes to take and when they take them. The purpose of this study was to analyze the effect, if any exists, that dual enrollment legislation has on high school CTAE programs in small, rural school districts in southeast Georgia. This study was timely in that circumstances surrounding this study is occurring at the present time. This chapter includes research questions, research design to include population, response rate, instrumentation, validation, data collection, and data analysis. Additionally, it includes how data is being reported and the chapter closes with the summary.

Research Questions

This study was guided by the following equal weighted research questions:

1. How has enrollment in high school CTAE classes changed since the passage of dual enrollment legislation?
2. How has participation in high school CTSO organization changed since the passage of dual enrollment legislation
3. According to CTAE educators, how has dual enrollment impacted classrooms?
4. According to CTAE educators, how has dual enrollment impacted student characteristics?

Research Design

This study was a causal comparative study involving small, rural school districts in southeast Georgia. The study incorporates a non-experimental ex post facto methodology where there is no manipulation of the variables or the conditions. This study incorporated a mixed method design to more accurately determine if the legislation originally known as *Move On When Ready* is impacting high school CTAE programs. Creswell (2014) explained that by blending both quantitative and qualitative

data, a more thorough understanding of the question can be gained. This type of design is beneficial for this study because it has attempted to gain qualitative data to help explain quantitative data (Creswell, 2014). While mixed methods research is still considered to be relatively new, it is gaining in popularity and can be instrumental in limiting biases found in quantitative or qualitative methods alone (Roberts, 2010). For this study, the intent was to conduct a longitudinal examination of dual enrollment, CTAE class enrollment, and CTSO participation over eight years. The number of years included enrollment numbers for dual enrollment and the enrollment numbers for CTAE classes for the five years prior to and the three years after the implementation of the legislation. In conjunction with this information, data were gathered through open-ended questionnaires that were administered to key adult stakeholders in similar school districts. The independent variable of this study was the passage of the legislation known as *Move On When Ready* in the State of Georgia. The dependent variables are enrollment and participation numbers in high school CTAE classes and CTSO organizations.

To conduct the study, the enrollment numbers of students at the seven small, rural school districts in southeast Georgia was tracked for the eight years mentioned previously. Specifically, data relative to the academic years of 2010-2011 to 2017-2018 were tracked to identify any noticeable trends that developed over the years researched. The numbers of students enrolled in dual enrollment classes as well as students enrolled in CTAE classes were graphed for analysis of participation prior to and after the latest dual enrollment legislation (formerly known as *Move On When Ready*). Student participation was tracked in five categories for examination. They were subsequently converted into percentages to succinctly provide insight into trends that may or may not have identified themselves. The five categories are: (a) participation in one or more CTAE classes, (b) CTAE concentrators, (c) graduation rate of CTAE concentrators, (d) paid CTSO membership, and (e) dual enrollment. In an effort to provide more data for interpretation regarding any trends that had developed or had not developed, an open-ended questionnaire was administered to CTAE faculty and staff members at the seven small, rural school districts in

southeast Georgia. These questions were intended to be supplemental in nature to add breadth for interpretation to the study.

Data Gathering

The primary data to be utilized for graphing purposes came from data collected by the Georgia Department of Education. For the purposes of this portion of the study, the Georgia Department of Education served as the gatekeeper of the information and the information was obtained by the researcher through the Georgia Department of Education's formal data request protocol. These data were selected because they were both accessible and capable of being represented graphically over time. Additionally, the categories are indicative of enrollment and participation; however, it was anticipated that the qualitative portion of this study would provide greater insight into the level of participation by students. Participation is an occurrence that can have different levels and in the case of this study the quantitative data was represented by being identified in one of the categories tracked over time. The inclusion of being identified as being part of this group, does not make any speculations as to the level of participation by the student. It is important to note that in some instances there could be students enrolled in both a CTAE class and a dual enrollment class. Therefore, the reader should not read the graph and interpret that the categories represented in the data are mutually exclusive to one program. Rather, these graphs are intended to provide a representation of trends over time for the seven school districts, as well as a comparison of the seven rural school districts to one another, as well as the state of Georgia as a whole.

Supplemental questions were then asked of faculty members regarding the impact that dual enrollment is having on CTAE classes and CTSO organizations. For the purposes of the qualitative data, the superintendents for the seven school districts granted permission to administer the open-ended questionnaire and signed a letter of cooperation (LOC).

All CTAE teachers and CTSO advisors from each of the identified school districts were administered the open-ended questionnaire. As the individuals who hold these positions are the service providers, they are best equipped to answer the questionnaires regarding the impact that they are

encountering within their programs. The size of the seven districts, as well as proximity to one another, were critical factors in determining which districts to incorporate into this study. All these school districts face similar challenges in that each of these districts are impacted by close proximity to East Georgia State College, Southeastern Technical College, and Georgia Southern University.

The seven rural school districts in southeast Georgia will be identified as follows: District A (1,897), District B (1007), District C (1,122), District D (2,949), District E (3,773), District F (892) and District X (2,251) School Districts. Attendance numbers were based on October 2, 2018, FTE counts as provided through the Georgia Department of Education.

Utilizing *Google Maps and Directions*, the distance from District X is indicated to provide descriptive information regarding proximity. District X to District A (20.7 miles), District X to B (56.9 miles), District X to District C (34.6 miles), District X to District D (23.3 miles), District X to District E (23.5 miles), and District X to District F (38.4 miles). Proximity to school district X and rural size were key determinants in deciding upon which districts to include in this study. Participants may have been incentivized to participate based on gaining useful information regarding what may be impacting their classrooms and organizations.

Superintendent consent was utilized to gain access to necessary respondents to elicit participation. This study incorporated elements of both convenience and purposive sampling because the respondents of this survey provided the best insight to the desired information and it was anticipated to be able to gain access to respondents relatively easily.

Participation

Due to this being a mixed methods approach, data were collected via two methods. The quantitative data were obtained through a formal data request through the Georgia Department of Education. The qualitative data was obtained first requesting a letter of cooperation (LOC) from the seven district superintendents. Upon LOC agreements with the seven school districts, open-ended questionnaires were distributed to the identified stakeholders. Superintendents and other administrators

were important to this data collection, as they served as gatekeepers (Creswell, 2014) to the stakeholders with the most direct insight on how programs may be changing. Those stakeholders were identified by the CTAE director of each school district. Questionnaires were sent to participants asking them to be completed within two weeks. Subsequently, follow-up emails of appreciation were sent to participants who submitted questionnaires and emails requesting participation were sent to those that have failed to respond. The first subsequent email was sent exactly two weeks after the initial email request with the third and final request sent exactly one week after the second request.

Instrumentation

To represent the quantitative data obtained, a spreadsheet was created and utilized to allow the researcher to assemble data for graphing purposes. The qualitative data were gathered from the utilization of an open-ended questionnaire (see Appendix B) created in conjunction with a methodologist from the university from which the researcher is pursuing his doctorate. The open-ended questionnaire was field-tested prior to being administered. Proper consideration was given to ensure that field testing provides a quality instrument for the completion of the study. The following considerations, as identified by Roberts (2010), were employed during field-testing the questionnaire: understandable instructions, clear wording, adequate answers, enough detail, irrelevant questions, length, and convenience.

Validation

For the purposes of transparency, it should be noted that the researcher currently serves as the CTAE Director for District X. He has been engaged in CTAE instruction and administration for more than 15 years, and has had frequent conversations with CTAE teachers, CTSO advisors, and other administrators. The researcher did not complete a questionnaire nor did he interact with respondents other than asking them to complete the survey. The researcher brought no biases as to whether potential impact is positive or negative, but rather sought to understand if there has been an impact in terms of enrollment numbers and participation. An effort was made to gain understanding of stakeholder perceptions to help triangulate data to determine if there has been an impact by this legislation. Their

perspectives were informative and added to the study because, “If themes are established based on converging several sources of data or perspectives from participants, then this process can be claimed as adding to the validity to the study” (Creswell, 2014, p. 201).

This questionnaire was validated by field testing the questionnaire with stakeholders from other districts prior to implementation. Additionally, each question of the questionnaire was examined to determine if each question was designed to garner the desired information without being leading or too narrow. The examination of the questions was conducted by other stakeholders who are not involved in the study but have direct knowledge of the services and programs intended to be studied.

Data Collection

This study employed a convergent parallel mixed method design which allowed for the collection of data simultaneously. As described previously, the raw numeric data were obtained by utilizing archival data available through the Georgia Department of Education. The data were collected and compiled into a line graph so that readers can see changes that occurred over the length of time analyzed in the study. Considerable time and effort were dedicated to ensuring that the graphic is accurate, explanatory, and aesthetically pleasing so that readers can see any trends exist.

Creswell (2014) explained that a key assumption is that the data collected, whether it be quantitative or qualitative in this type of study, needs to be measuring the same variable. This is important because the data collected in the qualitative portion of this study has been included to help explain any trends that may exist in the quantitative data. This is highlighted in this section, in part because data collection will be separate from one another, although it will occur simultaneously. Additionally, the data collected was designed to help explain one another from multiple perspectives.

As identified in previous sections, great care was taken to ensure validity of this instrument with multiple steps involved. By virtue of multiple steps being included, this will be a timely process. The researcher recognizes that questionnaires can yield low response rates Roberts (2010). Due to identifying this early in the process, the following steps are identified by Roberts (2010) and were taken to elicit

higher return rates: (a) a letter of endorsement from each district's superintendent was sent with each questionnaire, (b) effort was taken to ensure that questionnaire appeared professional, and (c) a short letter explaining the importance of the study to them on a professional level was included. In addition to the care taken to ensure that higher return rates yielded the desired sufficiency of returned questionnaires, timeliness was critical to gaining the participation of stakeholders. Education is a cyclical process and the stakeholders involved with this study were heavily involved in that process. This is an area in which the researcher's professional experiences benefited the study and the implementation of it because the researcher understands the cycles and what they typically yield.

Data Analysis

As this study used a mixed method design, the analysis itself was mixed, but the purpose was to integrate the data obtained to more thoroughly examine the impact the legislation formerly known as *Move On When Ready* may have had on the CTAE classrooms. In regard to the integration of data analysis in mixed methods research, Bazely (2009) stated, "Nevertheless, one of the more constant comments in articles where integration during analyses does occur is that this was key to unfolding the complex relationships in the topic of study" (p. 205). This confirms the value of utilizing one data source to help further explain the data from another source.

The qualitative data analysis is a process that involves multiple steps. The first begins with the collection of the data. As the desired number of questionnaires was returned, there was enough text from which themes were gleaned. Therefore, a systemic process was employed to make the analysis of these data more manageable and meaningful to the readers of this study. The process was one like the process identified by Auerbach and Silverstein (2003) in their text regarding qualitative data analysis. The process that they advocated takes the following format and simplifies the process for the researcher. It includes identifying relevant text from the raw data, then identifying repeating ideas, which then establishes themes, which allows for theoretical constructs, which in turn allows for a theoretical narrative to be derived. This framework was employed to analyze the questionnaire responses and generate

meaningful and relevant data that addresses the issue of stakeholder perceptions regarding the impact of this legislation.

The analysis of the data incorporated a side-by-side approach as the intent of the researcher is to utilize the qualitative findings to either support or not support the results indicated in the line graph representation (Creswell, 2014). Reliability of this portion of the study was established by utilizing a coder reliability test. This test resulted in correlations of .77 for question three and .89 for question four. It was determined that this was a satisfactory level of correlation to proceed with analysis.

Reporting the Data

The data gained through this causal comparative study have been reported by displaying data in both a graphic format, as well as through textual representation. The primary data have been displayed in graphical representation with the utilization of a line graph and data gained through the questionnaire yielded narrative derived from themes that emerged from participant's responses to the voluntary open-ended questionnaire. These themes and narrative emerged through a comprehensive process of analysis. The responses gained from the participants were read thoroughly and on numerous occasions so that they were able to be classified into categories. In order to do this accurately and to ensure the greatest degree of reliability, the researcher performed a coder reliability test.

The qualitative portion of the data was designed to gain stakeholder insight into any phenomena that has occurred in the quantitative data. Therefore, data have been displayed and discussed on each research question; however, major themes found within the qualitative data have also been shared with the intention that the themes help to clarify any relationship that may occur between the passage of the legislation and its resulting impact on CTAE classrooms and programs.

Limitations and Delimitations

Carlson (2010) provided an interesting consideration when contemplating qualitative research. She shared, "Ideas for increasing trustworthiness are presented as should do's rather than must dos. Collecting and analyzing narrative data, characteristic of many qualitative studies, presents a plethora of

unique challenges” (Carlson, 2010, p.1102). This connection is relevant here because what some may view as strengths of member checking others may view as weaknesses. Again, the Robert Wood Johnson Foundation is helpful in highlighting a few of those perceived limitations. Those limitations may include the challenge to whether the researcher or the participants are indeed authorities on the subject matter, the possibility for differing understanding between researcher and participants in what is being conveyed, the possibility of personal agendas in the research, and more. A dedicated effort was made to limit any of those from occurring during this study. For the purposes of this study, the researcher elected to incorporate data made available through the Georgia Department of Education. Additionally, the researcher determined the categories that were representative of enrollment and participation from the data made available by the state. It was also determined by the researcher that individuals that had fewer than four years of experience would have less insight as to changes that have occurred regarding CTAE enrollment and CTSO participation.

When a relatively new program is being introduced, it is sometimes difficult to foresee some of the potential issues that may arise as a result of the implementation of that program. Additionally, it may also take some time for any benefits and/or negative aspects to arise or for the data needed to analyze it to develop. One factor that had an impact on this study is that lagging data was analyzed, which may not be as impactful as real-time data. Therefore, some of the impacts of dual enrollment legislation may not come to fruition for several years. Lastly, it should also be noted that this study was confined to seven rural systems in southeast Georgia and may not be indicative of the impact on the CTAE programs in suburban and/or urban areas in other parts of the state.

Chapter Summary

This was a causal comparative study in which the researcher tracked student attendance in dual enrollment courses, high school CTAE courses, and membership in CTSO organizations. The study has a mixed methods research design in which both quantitative and qualitative data has been incorporated so

that readers can gain insight into whether legislation originally introduced as *Move On When Ready* has impacted student enrollment in high school CTAE classes and participation in CTSO organizations.

Quantitative data utilized in this study was gained by an application process accessible through the Georgia Department of Education. It should be noted that there is consistency in the data because all data and each category were maintained and reported by the state of Georgia's Department of Education. Qualitative data were obtained through the distribution of open-ended questionnaires that were employed to gain stakeholder experiences of the any impact that they have observed at the grass roots level of delivery.

CHAPTER 4

FINDINGS

As stated in Chapter One, this study sought to determine if dual enrollment was having an impact on CTAE Enrollment and participation in CTAE classes and programs at the secondary level. To better determine if an impact was occurring, this study utilized a mixed methods data analysis in which quantitative data obtained from the Georgia Department of Education were tracked regarding categories of information that pertained to enrollment and participation. Additionally, qualitative data were obtained by administering an open-ended questionnaire to adult service providers regarding student enrollment and participation. The researcher then compared the two to determine if the quantitative and qualitative data aligned and then was able to answer the four guiding research questions. The four research questions to be answered were as follows:

1. How has enrollment in high school CTAE classes change since the passage of dual enrollment legislation?
2. How has participation in high school CTSO organization changed since the passage of dual enrollment legislation?
3. According to CTAE educators, how has dual enrollment impacted classrooms?
4. According to CTAE educators, how has dual enrollment impacted student characteristics?

In an effort to best report the finding, the data have been categorized by research question. By categorizing as such, the reader will be able to see how the different data measures answer the questions on an individual basis.

Demographics

Seven rural school districts in southeast Georgia were the focus of this study. They ranged in student population from a low of 892 students in the district to a high of 3,773 students in the district. All seven counties were in close proximity to one another and each district only had one high school within its district. The data represented were provided by the state of Georgia Department of Education and were converted to percentages for graphic representation.

Table 1

School District Demographics

School District	Student Population	Distance from School District X
SD X	2251	0.0
SD A	1897	20.7
SD B	1007	56.9
SD C	1122	34.6
SD D	2949	23.3
SD E	3773	23.5
SD F	892	38.4

Additionally, there were thirty-seven CTAE/CTSO service providers identified in the seven rural school districts. Of the thirty-seven possible respondents, twenty-six returned the voluntary questionnaire (70% response). However, for the questions relative to research questions three and four, not all participants have enough experience pre- and post-implementation of dual enrollment to respond insightfully to the questions relative to those research questions. Findings relative to each of those questions provided clarification of the number of participant responses that could be included. Respondents were asked to complete an open-ended questionnaire that consisted of four questions. The first two questions asked for demographic information, such as the content area in which the teacher and/or advisor taught or led, and how many years that they had been doing so. Participant demographics ranged in years of service from less than one full academic year to as many as twenty-eight years of service. Additionally, they taught a range of disciplines; however, there were proportionally higher degrees of commonality in the areas of Agriculture, Business, and Family and Consumer Science. These areas of study are typically some of the most commonly taught as they are generally more representative of the region in which this study is being conducted. See Appendix C for demographic description of participants.

In the second two questions of the questionnaire, participants were asked two open-ended questions regarding changes they had noticed since the implementation of dual enrollment. Those questions specifically were as follows:

1. If you observed changes in enrollment and/or participation during your time teaching CTAE courses or leading CTSO organizations, what changes have you noticed? Also, please elaborate why you think this change occurred--whether it is policy, law, procedure, society, or other.
2. Since you have been a CTAE teacher and/or a CTSO advisor have you observed any changes in the educational characteristics and/or qualities of the students that you teach or are participatory in your organization? Also, please elaborate on how those characteristics and/or qualities may have changed over time--whether it is age, level of student engagement, level of student academic abilities, or other.

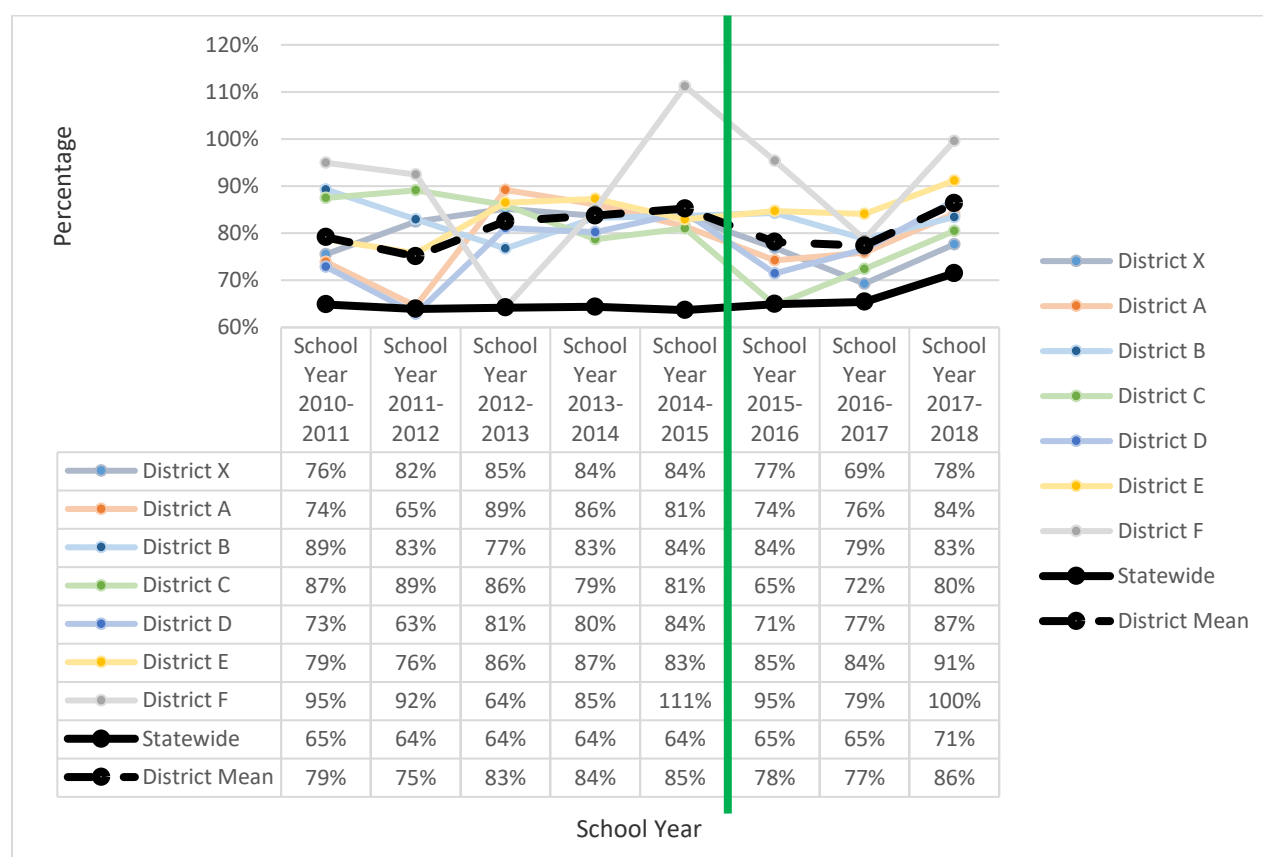
Again, the intent of this study was to see if there were appreciable differences in the number of students participating in CTAE prior to the implementation of dual enrollment and after the implementation of dual enrollment, and any noticeable changes in participation and the educational quality and/or characteristics of the students that may be occurring within CTAE programs since the implementation of the *Move on When Ready* legislation. In part, this study sought to obtain real-life insight from current service providers. The following will discuss the findings according to the four overarching research questions that guided this study.

Research Question One: Changes in Dual Enrollment

Research question number one sought to determine if changes had occurred in high school CTAE enrollment with the passage of dual enrollment legislation, which made dual enrollment more accessible and affordable. Data obtained from the state were tracked over academic years 2010-2011 through 2017-2018. Data were organized into three categories which are indications of enrollment in CTAE classes and the data were converted to percentages to be easier to understand their relevance to total student population. They are as follows: (a) percentage of students taking one or more CTAE class, (b)

percentage of CTAE Concentrators by school year, and (c) percentage of 4-year graduation.

Figure 1. Percentage of Students Taking One or More CTAE Classes by School Year



Note: The green line between SY 2014-2015 and SY 2015-2016 indicates data pre- and post-implementation of dual enrollment.

This category is representative of the percentages of students who took one or more CTAE class in a given academic year. Beginning in academic year 2010-2011, the mean percentage for the seven rural school districts was 14% higher than that of the state. This difference rose to a high of 20% in 2012/2013 and 2013/2014; however, the difference in percentages was at 15% in the last year tracked, 2017-2018. The closest that the differences in percentages ever came to one another was when the district mean was 12% higher than the state mean in 2011-2012. Interestingly, three of the seven rural school districts dropped in this category several percentage points, while the other four made some percentage points gain. District E made the most significant gain in this category, rising from 79% to 91%.

In order to answer the first portion of the first research question, a *t*-test was performed incorporating data from school years both prior to and after the implementation of the legislation known as MOWR. The researcher utilized SPSS to run a correlated *t*-test for each district, the mean of the districts combined, and for the State of Georgia as a whole. The rationale for such a test was that the data were a repeated measure of the same category. It is important to note that an alpha level of .05 was utilized for this test. Additionally, as there were only three years of data after the introduction of MOWR, the *t*-test only takes into consideration three years prior to the introduction of MOWR. The results of the test are provided in the table below with each district's data included. Of interest to the researcher was the 2-tailed significance level for each district. As the alpha level was .05, anything above that measure would indicate that we cannot reject the null hypothesis regarding significance. As such, the only district that we can reject the null hypothesis in this category is School District E, which had a two-tailed significance level of .019. The only other district that came close to this was School District C; however, it was not below the required measurement. Thus, in this category only School District E can be identified as having a statistically significant difference that is unlikely to have occurred by chance.

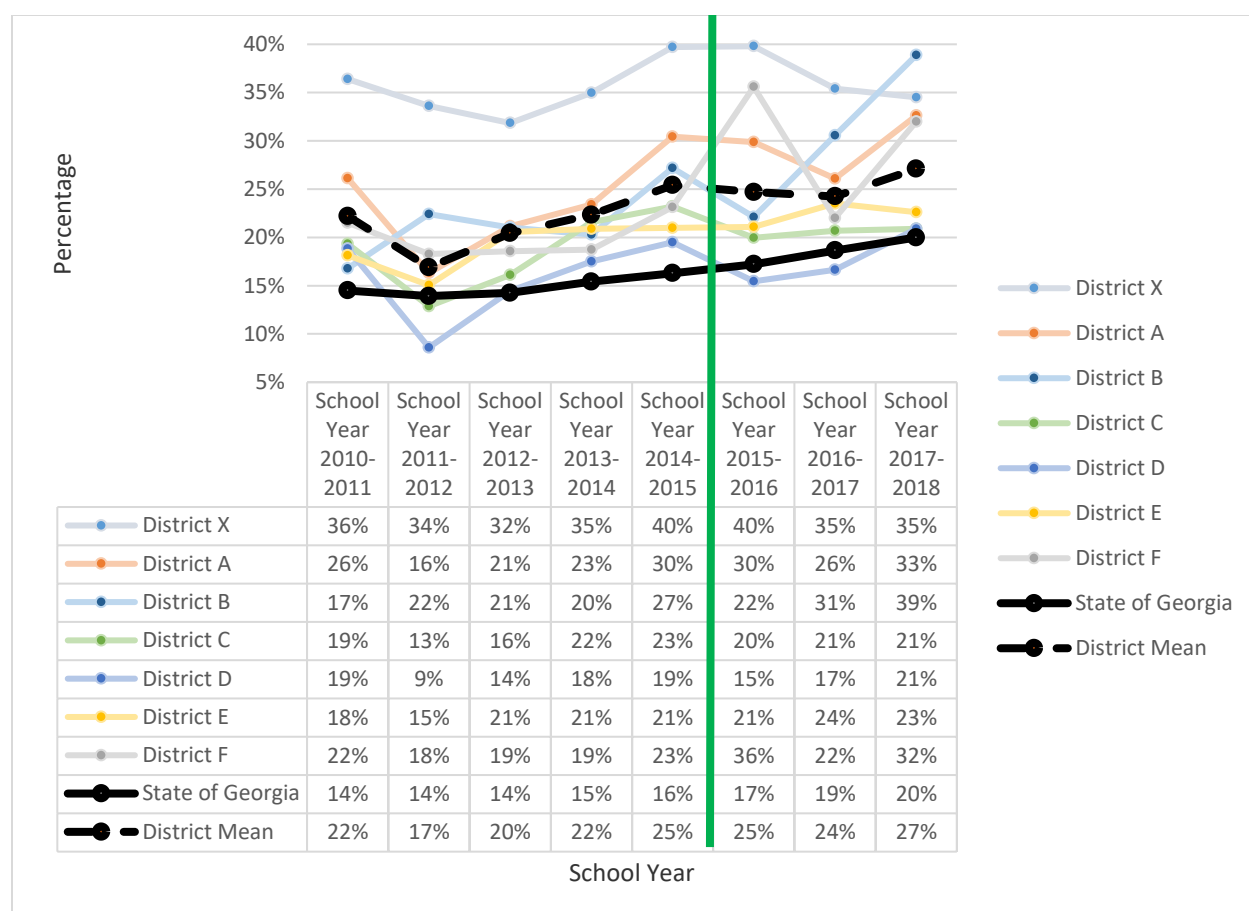
Table 2

*Changes in Percentage of Students Taking One or More CTAE Classes by School Year
Pre- and Post-Dual Enrollment Implementation*

Entity	Correlation	Sig. (2-tailed)	Test Statistic (t value)
SD X	-.088	.259	1.562
SD A	.842	.713	-.423
SD B	.189	.803	.285
SD C	-.363	.087	3.174
SD D	.567	.324	-1.299
SD E	.987	.019	-7.181
SD F	-.618	.653	-.523
District	.912	.383	-1.109
Statewide	-.500	.347	-1.220

The second part of research question one examined the percentage of CTAE Concentrators by school year.

Figure 2. CTAE Concentrators Percentage by School Year



Note: The green line between SY 2014-2015 and SY 2015-2016 indicates data pre- and post-implementation of dual enrollment.

The category displayed in Figure 2 is representative of students who took and passed the three sequential classes necessary to have completed one of the identified CTAE pathways, as identified by the state of Georgia. Beginning in academic year 2010-2011, the difference in the percentage of students completing a pathway or being identified as a CTAE concentrator was 8% higher for students in the small rural school districts. While that difference shrank to 3% in 2011-2012, it reached a zenith of 10% in academic year 2014-2015 and ended with a difference of 7% in academic year 2017-2018. This category saw six of the seven rural school districts make some percentage points gain, with only District X falling

any percentage points lower. To provide the reader greater insight to what that means from a student's perspective, nearly all the districts saw students begin and finish a CTAE pathway. That means that students took the three successive courses intended to provide the students with a more complete comprehensive examination of the content, which could prove invaluable in career exploration and development. Additionally, it is important from a school perspective as the school utilizes that information for purposeful planning to ensure that the correct classes based on interest and need are being offered to their students at the secondary level.

As stated above regarding the parameters and rationale for performing a *t*-test, this category was also subjected to a correlated or paired *t*-test. Attention again needed to be focused on the 2-tailed significance level to determine if there was a level of significance to such an extent to reject the null hypothesis. For this category, the 2-tailed significance values are much closer to the .05 level. School District X, School District A, School District C, School District F, and the District Means are all below one, but none of them quite met the threshold. Interestingly, the only group within this category that did fall below the threshold was the State of Georgia as a whole. Thus, we can reject the null hypothesis for the state and say that the results were statistically significant within this category.

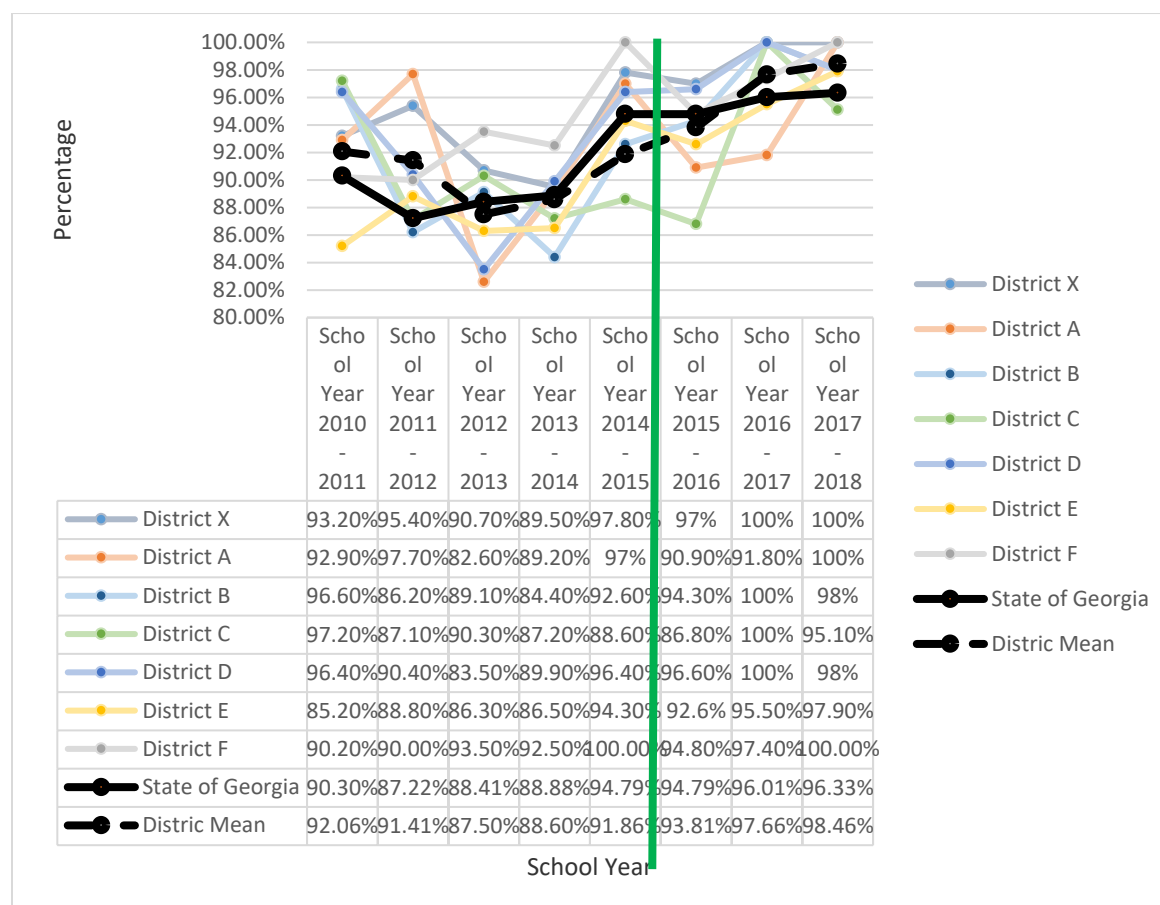
Table 3

*Changes in Percentages of Student CTAE Concentrators by School Year
Pre- and Post-Dual Enrollment Implementation*

Entity	Correlation	Sig. (2-tailed)	Test Statistic (t-value)
SD X	.866	.094	-3.024
SD A	.569	.069	-3.606
SD B	.778	.109	-2.775
SD C	.866	.067	-3.671
SD D	-.327	.441	-.954
SD E	-.327	.166	-2.135
SD F	.866	.083	-3.250
District	.434	.094	-4.250
Statewide	.	.034	-5.292

The third part of research question one examined the percentage of CTAE Concentrators who graduated within four years by school year.

Figure 3. Percentage of 4-Year Graduation by Cohort



Note: The green line between SY 2014-2015 and SY 2015-2016 indicates data pre- and post-implementation of dual enrollment.

This category remained consistent with the percentages between the seven rural school districts and state mean consistently with a percentage point of one another with the exception of academic year 2011-2012 when the difference was 3.36% points with the district mean being slightly higher than the state mean. Once again, all districts within the seven, with the exception of one, District C, saw an increase within this category. It should be noted here that this category is important because what it represents. This category means that the students concentrating in a CTAE pathway are graduating from school. More specifically, they are graduating from school in the normally allocated amount of time, four years, expected for students to matriculate through secondary school. As such, it might be argued that CTAE classes programs are having a positive impact on high school graduation.

The third category to be subjected to a *t*-test maintained the parameters established in the first two tests. Much like the previous category, this category revealed several the entities within that were close to meeting the requisite level of significance. School District X, the means of the districts, and School District D were all relatively close to the standard alpha of .05, yet they were not significant enough for the null hypothesis to be rejected. However, School District E, School District F, and the state all had statistically significant results. As such, it is plausible to conclude that there is a real difference between the means prior to and the means after the implementation of MOWR.

Table 4

Changes in Percentage of Student CTAE Concentrators Graduation Rate by School Year Pre- and Post- Dual Enrollment Implementation

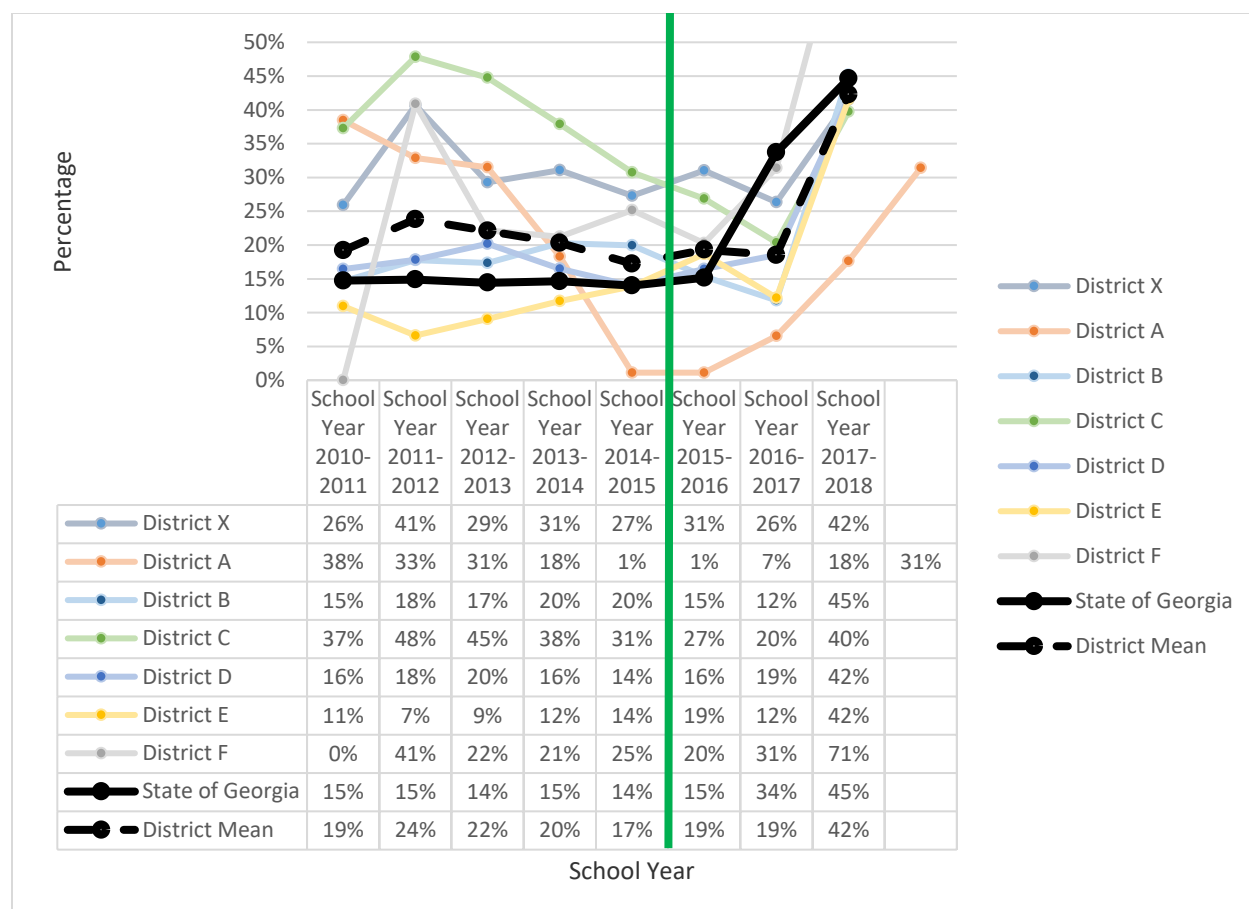
Entity	Correlation	Sig. (2-tailed)	Test Statistic (t-value)
SD X	-.115	.076	-3.413
SD A	-.907	.714	-.423
SD B	-.998	.317	-1.322
SD C	-.996	.731	-.396
SD D	-.327	.162	-2.168
SD E	.350	.028	-5.892
SD F	.918	.009	-10.392
District	-.693	.113	-2.714
Statewide	-.945	.026	-6.102

Research Question Two: Percentage Change in CTSO Participation

Data collected relative to this research question were centered on attempting to determine if membership in high school CTSO programs had changed since the passage of dual enrollment legislation that made dual enrollment more accessible and affordable. For the purposes of this data set, it should be noted that participation is being measured by membership. Although it is not a given that membership

equates to active participation, it is presumed that there would be some level of participation based on membership.

Figure 4. Change in CTSO Participation



Note: The green line between SY 2014-2015 and SY 2015-2016 indicates data pre- and post-implementation of dual enrollment.

This category saw the greatest degree of change when comparing the district to the state. In the first year, SY 2010-2011, the district mean was 3% higher than the state mean; however, it ended in academic year 2017-2018 with the state mean being 4% higher than the district mean. This was another category where most of the seven districts saw growth with four of the seven seeing significant growth.

Interestingly, this is the first category in which there none of the districts, nor the means of the districts and/or the state had a statistically significant difference. As such, it is not possible to reject the null hypothesis for any of the groups within the category.

Table 5

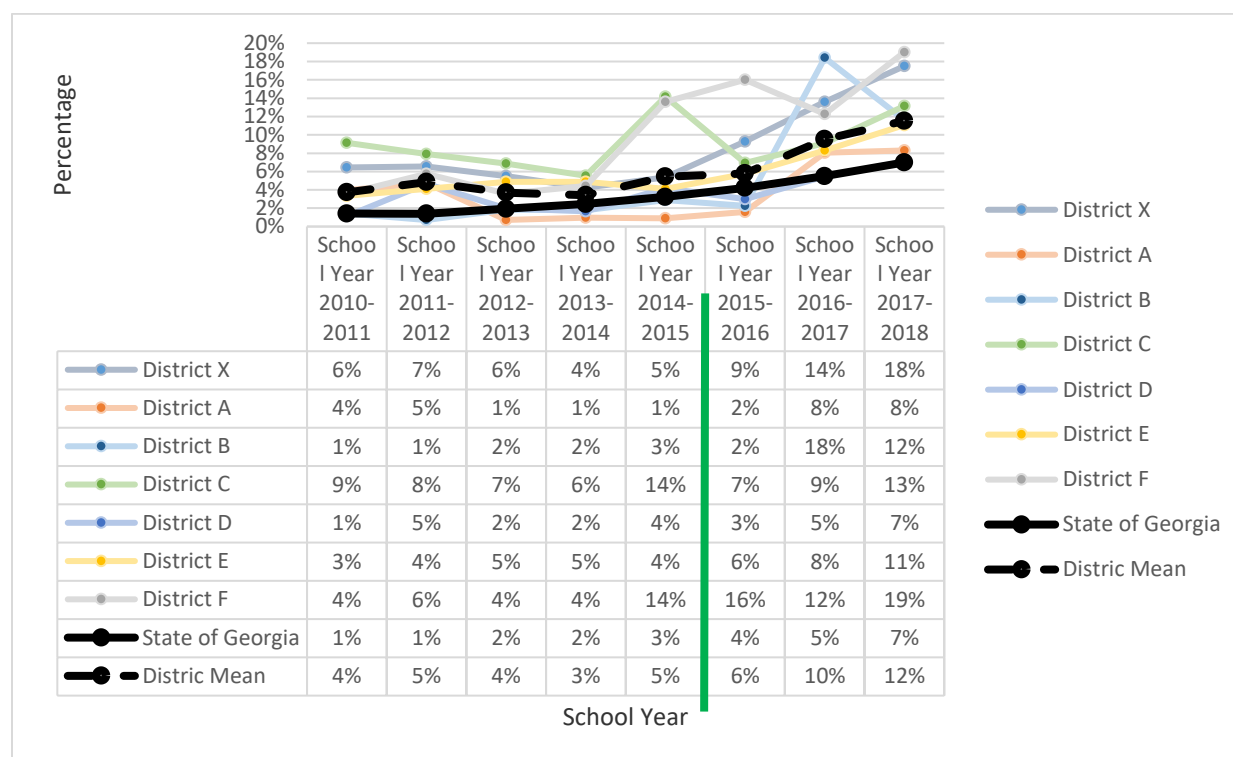
*Changes in Percentage of Students' CTSO Membership by School Year
Pre- and Post-Dual Enrollment Implementation*

Entity	Correlation	Sig. (2-tailed)	Test Statistic (t-value)
SD X	-.600	.915	-.120
SD A	-.917	.067	3.652
SD B	.108	.556	-.700
SD C	-.095	.177	2.052
SD D	.914	.397	-1.069
SD E	.223	.226	-1.728
SD F	.246	.368	-1.155
District	.115	.580	-.655
Statewide	-.780	.206	-1.847

In order to obtain a more complete picture of CTAE activities pre- and post-dual enrollment implementation, the researcher examined enrollment in CTAE courses by school year.

This category was the one category within the study that had the most direct impact from the legislation. The legislation that allowed for an increase in student enrollment and participation would be a category in which it should be anticipated that a change would occur. This is another that saw consistency in the gap between the district and state means with a starting mean of the district being 4% higher than the state and the same difference occurred in academic year 2017-2018, although there were several academic years in which that difference was reduced. This area was one that saw significant growth across each of the seven school districts as well as the state as a whole. The district mean rose from 5% to 11% of students enrolled in a dual enrollment class while the state mean rose from 1% to 7%. Each of the seven school districts saw some growth in this category.

Figure 5. Student Enrollment in Dual Enrollment Courses



Note: The green line between SY 2014-2015 and SY 2015-2016 indicates data pre- and post-implementation of dual enrollment.

The final category for which a correlated t -test was conducted involved student participation in dual enrollment. A critical feature of this study was the implementation of MOWR, which allows for more students to participate in dual enrollment, and it is interesting consider the results. As one can see in the table below, School District F was close to being able to reject the null hypothesis, at the significance level of .05. Additionally, School District X and the means of the districts were also relatively close; however only School District E and the state as a whole saw statistically significant differences between pre- and post data.

Table 6

*Changes in Percentage of Students Taking Dual Enrollment Classes by School Year
Pre- and Post- Dual Enrollment Implementation*

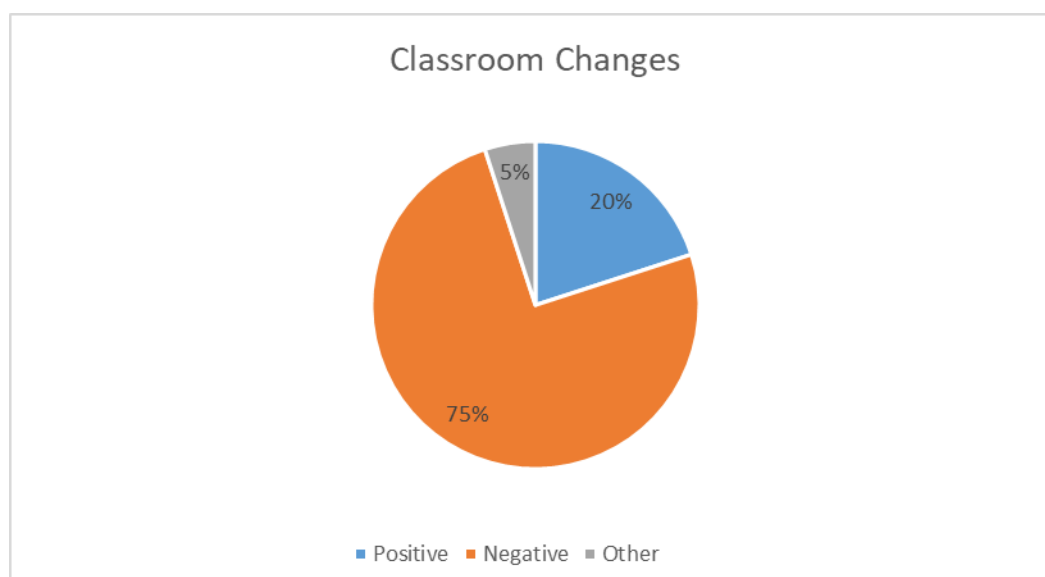
Entity	Correlation	Sig. (2-tailed)	Test Statistic (<i>t</i> -value)
SD X	.064	.106	-2.817
SD A	-.277	.413	-1.024
SD B	.143	.181	-2.015
SD C	-.982	.549	-0.714
SD D	.240	.250	-1.606
SD E	.993	.039	-4.914
SD F	-.904	.053	-4.158
District	.189	.102	-2.887
Statewide	.945	.020	-6.928

Research Question Three: Teachers' Perceptions of the Impact of Dual Enrollment

The third question of the open-ended questionnaire provided the most direct insight into this research question when considering adult stakeholder's opinions. It was anticipated that districts of the size involved in the study would have similar numbers regarding the number of individuals that provide services and support to the students taking CTAE classes and participating in CTSO organizations. However, there were variations in the number of CTAE/CTAE service providers.

In this question, respondents were asked if they had observed changes in their classroom over the length of time in which they had either been a CTAE teacher and/or CTSO advisor. Additionally, they were asked what they attributed those changes too. As such, the following information was gleaned from their responses.

Figure 6. Teachers' Perceptions of Classroom Changes Due to Dual Enrollment



Respondent's data provided for question three was broken down into three themes which were as follows: positive, negative, and other. These themes emerged as the data were analyzed, with respondents providing insight into how they believed their classes and programs had been impacted since the implementation of MOWR. It should be noted that the researcher elected to not take into consideration the opinions of those with less than four years of teaching experience. The rationale was that, for the purposes of this study, they would not be equipped well enough to provide insight into how their classrooms may have changed since the implementation of MOWR. As such, the breakdown of the themes that emerged revealed that 76% of the respondents that met the criterion of having taught for more than four years overwhelmingly felt as though their classrooms had changed in a negative manner. Twenty percent of respondents communicated that they had experienced or maintained positive classroom characteristics. The final theme that emerged was other and it was incorporated as the researcher was unable to ascertain if the respondent felt in a positive or negative manner.

Examples of the type of responses that classes and programs were being affected in a negative way include "I have seen a marked decrease in the number of students taking my pathway. I think it is because of dual enrollment" and "since going to block [schedule], my class size has reduced overall but

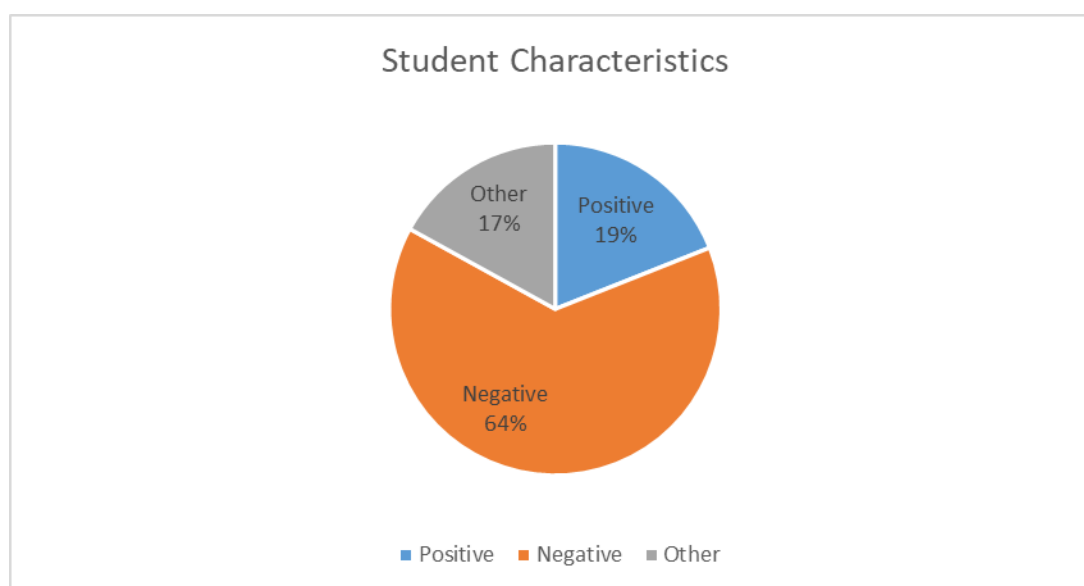
this could be due in part to the increase in dual enrollment and the limited students that are actually on campus.” Further examples include “CTAE/CTSO involvement I feel has decreased due to the lack of interest” and “another aspect that has changed, is students taking courses out of sequential order. I got kids in Ag Mech 1 as freshman and have never taken the intro course.” Lastly, “Class enrollment size and FBLA active participation have both steadily decreased with the introduction of dual enrollment.”

Examples of positive responses to the question posed regarding observed changes in enrollment and/or participation include “Yes, my classes are mostly full this year. Last year, they were not. I’m not sure why that is. Maybe because the students need to complete the pathway.” “I have noticeable interest in our program, due the availability in today’s job market.” Lastly, “It was challenging at first to get students to buy in and participate, but once they did and saw a little success it became easier to get them engaged.”

Research Question Four: Teachers’ Perceptions of Changes in Student Characteristics

Question four of the open-ended questionnaire provides direct insight into respondent’s perceptions regarding the changes that they feel have or have not evolved within their programs. The respondents’ data revealed the following information.

Figure 7. Teachers’ Perceptions of Changes in Student Characteristics



Respondents' data from question four regarding changes in educational characteristics and/or qualities of students revealed that the most appropriate themes to identify were as follows: positive, negative, and other. These categories emerged somewhat readily as respondents answered the questions; however, in some instances the researcher had difficulty in attributing it as a positively or negatively centered response and elected to create another category. Additionally, it should be noted that respondents with less than four years' experience were not considered germane to the study.

A few examples that led to students being placed in the negative category include, "with the dual enrollment surge, my course now is lucky to have more than eight students each semester. And DE has taken most of the Juniors and Seniors leaving me with mostly 10th graders who are completing their pathway" and "the students seem to be a little less engaged since I do not have as many of the college bound students." Other examples include "the advent of dual enrollment has taken away many academically talented students away from CTAE courses when they reach 11th and 12th grade," and "actually, my observations for the classes that I teach show slight changes in student characteristics over the years, the most notable change would be in the apathy of the student." A final comment includes that "the students seem to be a little less engaged since I do not have as many of the college bound students."

Individual responses that cause them to be classified as positive included "from my time teaching and the students that I have taught I can see a greater number of students being comfortable working with technology such as Microsoft Word, Microsoft Excel, and Microsoft PowerPoint Presentation." Another is "I have seen students build their confidence in FBLA from bashful to confidence. Many of the students expressed interest in that characteristic alone." A final example for this category includes "our construction program has had a high level of student engagement. Our students understand that we all have to work together for a common goal. That goal would be to finish the job at task with a quality finished product."

Lastly, the researcher will provide an example of a response that caused the researcher to create the “other” category: “I don’t think that the level of student ability has changed but the fact that technology pretty much runs our daily live and I believe has played a factor in student engagement.”

Response to Research Questions

Research Question One: Changes in Dual Enrollment

The categories that the researcher elected to analyze to determine if legislation known as MOWR was impacting high school CTAE classrooms was inclusive of three areas related to CTAE enrollment and they were: students taking one or more CTAE class, CTAE concentrators, and CTAE concentrator graduation rates. In addition, the researcher also included a category that was specific to dual enrollment. The research clearly demonstrates that the three categories that were specific to CTAE saw an increase in enrollment. A correlated *t*-test was utilized to determine if there were statistical differences of significance in addition to the raw data. These *t*-tests revealed that in the three categories deemed most appropriate for addressing this question, there were few instances in which there was statistically significant differences from pre- and post- implementation of MOWR. Additionally, there was a significant increase in the percentage of students taking dual enrollment classes. This was further emphasized by one school district and the state of Georgia as a whole displaying statistically significant differences between pre- and post-implementation of MOWR. As such, it appears that the implementation of dual enrollment has not had a negative impact on CTAE enrollment.

Research Question Two: Percentage Change in CTSO Participation

The second overarching research question that guided this study asked: How has participation in high school CTSO organizations changed since the passage of dual enrollment legislation? Career Technical Service Organizations (CTSO) are an instrumental aspect of CTAE classes and programs. As such, it was important to ascertain if these organizations were being impacted. Analysis of these data indicates that if membership equates to participation, then these organizations have not only survived but appear to be thriving. Enrollment numbers have seen a definite uptick over the course of the years

analyzed. Statistical analysis indicates that the increase is not a statistically significant change in CTSO enrollment. Correlated *t*-tests revealed that no districts or entities had incurred statistically significant changes at the alpha rate of .05.

Research Question Three: Educators' Perceptions of the Impact of Dual Enrollment

Although the numeric evidence indicates that CTAE programs have not been impacted in a negative manner, CTAE service providers tend to have a much different view. The majority of teachers who provide instruction in CTAE classes indicated that they believe dual enrollment has negatively impacted their enrollment due to the fact that students must decide to either take CTAE classes or take dual enrollment classes. In many CTAE service providers' opinions, when students are making this determination, they are most often opting for dual enrollment.

Research Question Four: Educators' Perceptions of Changes in Student Characteristics

Participants were asked their perceptions of how dual enrollment has impacted characteristics of students involved in CTAE and STSO. Data indicated that these educators believed that the students who remained in their classroom tended to be apathetic as learners and that the learners were less capable since the passage of MOWR. The analysis of respondents' answers to the questions posed within the open-ended questionnaire revealed a sense of frustration regarding the characteristics and quality of students within their classes and programs.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

The purpose of this study was to seek insight into whether legislation formerly known as Move On When Ready (MOWR), also known as Dual Enrollment, has impacted CTAE programs in seven rural school districts in Southeast Georgia. This chapter will provide a summary of the study, a discussion of the findings, and conclusions and recommendations for further study.

CTAE and dual enrollment instructional programs have long been viewed as being a viable means of making a student's educational experience meaningful, relevant, and impactful. It is true that they can sometimes overlap, meaning that it is possible for a student to take a dual enrollment class that has a CTAE orientation, such as a welding class at a technical institute; however, many times there is not a direct correlation between the two. As such, this study endeavored to determine if legislation that fostered the promotion of dual enrollment in 2015 has impacted CTAE programs in seven small rural school districts in southeast Georgia. In part, this study was compelling because the legislation that was passed in 2015 made dual enrollment more accessible to a greater number of students and was heavily promoted to parents and students to encourage participation.

The timeliness of this study is found in the circumstances from which it unfolded. Time and access to historical data allowed for a historical look at categories centered on student enrollment and participation. To add breadth, practicality, and a voice to the study, an open-ended questionnaire was incorporated to gain adult service provider input on what they were experiencing within their programs. Perhaps the need to gain this insight is best explained by a quote from former Secretary of Defense Donald Rumsfeld (as cited in Graham (2014):

Reports that say that something hasn't happened are always interesting to me, because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns - the ones we don't know we don't know. (p. 2)

As such, this study took a mixed methods approach to analyze a current circumstance that incorporated raw numerical data mixed with insight from those who are teaching and advising students in today's classrooms and laboratories.

Analysis of Findings

Analysis of Quantitative Findings

The data obtained through the data request procedure provided from the Georgia Department of Education enabled the researcher to obtain data on several critical categories indicative of enrollment and participation, if participation was only viewed in terms of membership. Those categories were as follows: (a) students who took one or more CTAE classes, (b) students who were CTAE concentrators, (c) the graduation rate for CTAE concentrators, and (d) CTSO membership. Dual enrollment categories were tracked for the seven rural school districts for consecutive academic years beginning with school year 2010-2011 and ending with school year 2017-2018, which was the last year that data were available at the time of the study. As previously stated, dual enrollment occurred at the onset of the 2015 school year. The seven rural school districts were tracked in comparison to one another, but also were compared as a group in relation to the state of Georgia data to better determine if any changes occurring within the seven school districts were unique or indicative of what was transpiring across the state of Georgia. To better display and to gain greater insight into the significance of changes, the numbers were converted to percentages for analysis.

As one could expect when measuring something over time, changes on an annual basis can be varied, but the real insight is gained by trying to identify trends. In terms of raw numeric data and the analysis of it over time, if dual enrollment was impacting CTAE and/or CTAE was impacting dual enrollment, it would be expected that the trends would be inverted or that there would be trending data in the opposite direction of the way that it had been trending. Interestingly, there appeared to be positive trend in almost every category. The category of *1 or more CTAE classes* saw an increase of 7% in the district mean, which correlated with the 6% gain observed by the state of Georgia. The categories of

CTAE concentrators, *4-year graduation cohort rate*, and *paid CTSO membership* demonstrated similar tendencies in that the gains reflected in the district mean scores were comparable to those reflected in the state of Georgia. In each instance, there were gains in percentage recognized and the amount of gain was within a couple of percentage points of one another when comparing district mean with that of the state of Georgia. The one exception of the gain being within a couple of percentage points was the category of *paid CTSO membership*, which saw the state of Georgia gain a 30% increase as opposed to the district mean, which saw a 23% gain. Regardless, it is noted that in each one of the categories that one would consider to be CTAE all moved in a positive direction. Additionally, the category of dual enrollment saw the district mean increase by 8% while the state of Georgia saw an increase of 6%. Based on the quantitative data, the researcher concluded that high school CTAE enrollment and participation have been positively impacted by the passage of dual enrollment legislation. Program numbers indicated that each of the categories identified to measure changes in enrollment and participation reflect an increase in enrollment and participation. The researcher noted that the increases in enrollment and participation cannot be attributed by an increase in total student enrollment, as the percentages calculated were reflective of total student enrollment in each academic year.

Correlated *t*-tests indicated that there were instances in which statistically significant changes had occurred pre- and post-MOWR implementation. The areas in which there was the most frequent instances of change occurred in the categories addressing *CTAE Concentrators*, *Graduation Rate*, and *students participating in dual enrollment*. Within these two categories, at least two of the districts or entities experienced statistically significant changes. In both of the categories, the state of Georgia was one of the entities revealing changes of statistical significance.

Analysis of Qualitative Findings

An open-ended questionnaire consisting of four questions was created and refined through the field trial process. After being refined, the open-ended questionnaire was emailed to the 37 adult service providers within the seven rural school districts who were either CTAE teachers and/or a CTSO advisors.

While 26 completed questionnaires were returned, not all participants were included in the final data analysis due to the fact that several indicated a lack of knowledge on the topic. As this study was concentrating on changes that may have occurred over time, the questionnaire was created in a manner to allow differences in perspective to be represented based on the length of time that service providers had been engaged in the field of work. As such, question one and two of the questionnaire were specific in nature and required a determination of what area the respondent taught and/or advised, as well as how long that they had been providing that service. Additionally while service providers with less than four years of experience opinions were valued, it was understood they would be less qualified to add substance to this study, considering the legislation was implemented in 2015. Those responses were deleted from analysis.

It should be noted that the researcher performed an intracoder reliability test during the course of analysis. This process calls for a lapse of time between one set of determinations and the subsequent set of determinations. The researcher allowed 10 days between interpretations and found an intracoder reliability of .77 for question 3 of the open-ended questionnaire and a .89 for question 4 of the same instrument. These percentages were deemed acceptable for the purposes of this study.

When analyzing the responses to question three, 75% of the respondents indicated that classes and/or programs had been negatively impacted since the MOWR implementation. Of the remaining 25% of respondents with more than four years teaching experience, 20% indicated in their responses that things had moved in a positive direction since MOWR implementation. The remaining 5% responses were identified as needing to be labeled as other, as they were neither positive nor negative.

Question 4 of the open-ended questionnaire was specifically designed to illicit respondents' perceptions on the educational qualities of the students that have remained in their classrooms and/or CTSO programs. Again, it should be noted that respondents with fewer than 4 years teaching experience were eliminated from this portion of analysis. The overwhelming majority of respondents replied in such a manner as to be labeled negative. In fact, 64% gave a response that the researcher identified as having a

negative connotation. Nineteen percent provided responses that the researcher placed in the positive category and seventeen percent were placed in the category labeled other.

Compilation of Findings

The interesting part of this study is that the two separate data sets have an obvious disconnect. A review of the raw numeric data over time indicated that the implementation of the legislation formerly known as Move One When Ready (MOWR) has had no effect or, if any, a positive effect on high school CTAE enrollment and participation. The graphs created showing the percentage of students being participatory or enrolled would suggest that things have improved for CTAE programs over the years studied. In other words, the implementation of dual enrollment had no effect on CTAE programs at the seven schools studied or at the state level. However, when analyzing the data gained from the open-ended questionnaires, it is apparent that CTAE teachers and CTSO advisors are confident that they have observed negative changes in their classrooms and within their programs. They believe that students who remain in CTAE courses and CTSO are less motivated, less mature, and not as qualified as the students now participating in dual enrollment as a result of so many more students participating in dual enrollment. The researcher must, therefore, determine that the truth lies somewhere in the middle. The meaning of that assertion is that the impact that service providers are feeling is real to them and there is merit to their assertions that their programs are indeed feeling an impact from this legislation; however, the impact may not be as severe and as significant as many of them believe.

Discussion of Findings

While this study was unique in that its purpose was to explore a current phenomenon that had originated from the passage of legislation only a few years ago, it does correlate well with several aspects of past literature. While not exhaustive of all, there are several correlations that need to be discussed.

The first point that needs to be made is the disconnect between teachers' perceptions and numeric evidence is that it is entirely likely that educators involved in CTAE instruction continue to battle with other academic teachers and perhaps among themselves regarding the negative perception of the

importance of CTAE instruction. As such, it is entirely possible that their perceptions may be based on a possible inferiority complex. Gammill (2015) found that as she made the transition from being an academic course teacher to a CTAE teacher that she was viewed as having taken a demotion or teaching classes that were held in less esteem than teaching an English class.

Perhaps CTAE teachers, especially those who have been in teaching for a longer period of time have not fully endorsed that idea that Impetore (2017) endorsed in that the purpose of CTAE instruction evolves over time. This evolution is typically based on the specific needs of the times and as such, perhaps we are simply in a new time and individuals' natural reluctance to change may be leading to a negative interpretation of those changes.

As early as 2000, Levesque et al. identified that CTAE purpose had become much more academic in nature. CTAE teachers, while expected to teach hands on, purposeful and specific content, are being charged more than ever to help students become more career ready, which is inclusive of more than just the technical skills needed to be prepared for entry level positions. It is possible that CTAE teachers are frustrated with new demands and as such are finding themselves identifying students as being incapable of meeting expectations.

Lastly, the researcher would highlight Boettchar's (2017) work indicating that the government has consistently provided educational opportunities through a variety of means. Specifically, these educational opportunities need to be coordinated to meet specific educational needs of the country and its peoples. At the time that this legislation was passed, it is likely that the passage of the legislation was to try to meet certain specific needs. Again, as a group, CTAE instructors may have a feeling that they are being circumvented in the meeting of these academic needs at this time and could possibly be looking for ways to express their frustrations. In this expression, they may be focused on any and all negative attributes so that they could be taking a positive opportunity and reflecting it in a negative manner.

It is quite understandable that many teachers at the secondary or high school level could be feeling a degree of uncertainty and/or perhaps a sense of inadequacy given the distinct push made for

more students to take advantage of dual enrollment opportunities. A wide array of the literature indicates that there are many positive benefits to dual enrollment. Researchers such as Puyear et al. (2001) found that dual enrollment allowed for a smoother transition to college and quicker attainment of a degree, which sounds wonderful for those students with academic inclinations, academic abilities, and the level of maturation needed to handle the intricacies of college. However, it is important to note that this legislation was entitled Move on When Ready, and there is much to consider when one thinks of being ready for those intricacies. For example, simply making a qualifying score on a test does not take into consideration the social maturation of the student. Nor does it take into consideration the degree of academic independence that is typically required for collegiate level work.

Conclusions

For the purposes of this study, it would have been ideal if the numeric data had aligned with the qualitative data. However, this was not to be case, and in large part, the two different data sets appear to be at odds with one another. The researcher identified in the above section a number of possibilities of why CTAE teachers may have differing opinions and/or views as to what they are expressing; however, the researcher would be remiss in not giving them some credence. Overwhelmingly, the numeric evidence pointed to the legislation known as MOWR or dual enrollment did not have a negative impact on CTAE classes and programs. Those programs have seen increases in their enrollment numbers pervasively through each of the categories studied. However, CTAE service providers were clear that in their opinions that there had been a negative impact felt at the local level in small, rural school districts.

Implications

The implications from this study are that small, rural school districts need to analyze in greater detail the type of instruction taking place within their CTAE programs. Numerically, there does not appear to be any reason to close programs at the local level. However, it should be noted that great emphasis needs to be placed on what instructional opportunities are currently taking place and how they may be adjusted if needed to dispel as much apathy as possible among students that remain in the CTAE

programs. Therefore, professional development for CTAE/CTSO educators may be needed to better prepare them to provide the type of career readiness skills that students need at the current time. An additional positive impact from such training and implementation could be an increase in the professional impact that CTAE teachers may have felt that they have lacked in the past.

Impact of the Findings

As alluded to in the above section, this can be a wonderful opportunity for CTAE teachers and programs to embrace a change in their professional stature. CTAE teachers can be key elements in the creation of career ready students who will guide and direct this country over the coming years. As such, it will be necessary for CTAE professionals to be thoroughly equipped to provide guidance through comprehensive instructional experiences that are inclusive of more than just technical skills. It is essential that CTAE service providers work hand in hand with academic content teachers to collaborate on exciting, engaging, and meaningful learning opportunities. It is also essential that local school district leaders are vastly aware of area and regional needs so that they can work collaboratively with business and industry to ensure that the school districts and the CTAE service providers are equipped to help meet local and regional needs.

Recommendations

This study acknowledged that there were opportunities for students to be dual enrolled and to be taking career and technical classes such as electrical classes, welding classes, and many more. While the purpose of this study was to examine the two programs separately, a recommendation for future studies is to see how dual enrollment and CTAE may be complementing one another. A correlation study between small, rural school districts and regional technical institutions triangulated with area industry needs could prove invaluable for school districts. A further recommendation would be for a self-efficacy study of small, rural school districts' educators regarding their ability to provide the instruction currently needed by today's learners when considering career readiness; this could provide meaningful data for local school

districts. A last recommendation is that this study be replicated with both mid-sized school districts, as well as large sized school districts to determine if results were limited to smaller school districts.

Recommendation for Implementing the Results of the Study

The researcher recommends that the results of this study be shared with the seven participatory districts in this study, as well as other opportunities that may present themselves to better inform all service providers. This study could be used as a genesis for a strengths, weaknesses, opportunities, and threats (SWOT) analysis conducted by each CTAE department within each district to ascertain for themselves why there appears to be a disconnect from their perceptions and what the numeric evidence presents. The study will additionally be shared with state Department of Education personnel that serve as liaisons between the department and local school districts. As such, this study could be instrumental across the state in alleviating concerns that may have arisen and encouragement for further analysis regarding misconceptions that may exist.

Recommendations for Future Studies

This researcher suggests that future studies incorporate a motivational scale that could be administered to the students within the CTAE programs. If such a scale would not be feasible, perhaps a questionnaire administered to students that do and do not take dual enrollment classes could prove beneficial in determining the “why” of the significant increase in percentage of students taking dual enrollment classes.

While the researcher incorporated the state statistics to give a baseline for comparison to the seven rural school districts, another suggestion for future studies would be that they might incorporate a comparison of both middle-sized districts, as well as large school districts to see if the data revealed similar results. A final recommendation centers on conducting a similar study regarding teachers’ perceptions with both general education teachers and dual enrollment professors to determine if they were experiencing or expressing a similar degree of frustration regarding student apathy and lack of work ethic, which presented itself in the open-ended questionnaire of CTAE service providers.

Concluding Thoughts

This study enabled the researcher to take into consideration the vastness of what goes into a quality educational experience for students. When taking into consideration the wide array of interests, abilities, social and emotional needs of a group of individual students and then trying to ensure that those are being addressed in the most appropriate programs and experiences, it can become overwhelming at best. As a researcher, it would have been ideal if all of the measures that were incorporated had been aligned and all conclusions pointed to something definitive. However, that did not prove to be the case in this study. It did leave the researcher having a clearer understanding that it is imperative to have all the data possible and create clear, definitive plans for direction and improvement when needed. I conclude by thanking all the individuals that not only participated in this study, but strive every day to provide sound, quality educational experiences.

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APPENDIX A
INSTITUTIONAL REVIEW BOARD APPROVAL

Georgia Southern University Office of Research Services & Sponsored Programs Institutional Review Board (IRB)		
Phone: 912-478-5465	IRB@GeorgiaSouthern.edu	Veazey Hall 3000 PO Box 8005 Statesboro, GA 30460
Fax: 912-478-0719		

To: Dollar, Robert; Brinson, Paul
From: Office of Research Services and Sponsored Programs
 Administrative Support Office for Research Oversight Committees
 (IACUC/IBC/IRB)
Approval Date: 1/29/2020
Subject: Institutional Review Board Exemption Determination - Limited Review

Your proposed research project numbered **H20279** and titled **"Does Dual Enrollment Impact CTAE Programs"** involves activities that do not require full approval by the Institutional Review Board (IRB) according to federal guidelines. **In this research project research data will be collected anonymously.**

According to the Code of Federal Regulations Title 45 Part 46, your research protocol is determined to be exempt from full review under the following exemption category(s):

Exemption 2 Research involving only the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, if: Information obtained is recorded in such a manner that human participants cannot be identified, directly or through identifiers linked to them. Please visit our FAQ's for more information on anonymous survey platforms: Any disclosure of the human participant's responses outside the research could not reasonably place the participant at risk of criminal or civil liability or be damaging to the participant's financial standing, employ-ability or reputation: Survey or interview research does not involve children: The research project does not include any form of intervention.

Exemption 4 Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met: The identifiable private information or identifiable biospecimens are publicly available; Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects.

Any data use agreement or agreement change required by the data owner must be supplied to the IRB prior to execution for review. This approval is contingent upon researcher compliance with the conditions of the data use agreement (where required) and current institutional data security policy.

Any alteration in the terms or conditions of your involvement may alter this approval. *Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that your research, as submitted, is exempt from IRB Review. No further action or IRB oversight is required, as long as the project remains the same. If you alter the project, it is your responsibility to notify the IRB and acquire a new determination of exemption. Because this project was determined to be exempt from further IRB oversight, this project does not require an expiration date.*

Sincerely,



Eleanor Haynes
Compliance Officer

APPENDIX B
QUESTIONNAIRE

Part 1:

Please respond to the following two questions regarding your demographics:

1. What is the CTAE or CTSO area in which you teach or advise?
2. How many years have you been teaching and/or advising in this area?

Part 2:

Please respond to the following questions regarding your thoughts on the impact of Dual Enrollment (MOWR) legislation on CTAE and/or CTSO:

1. If you observed changes in enrollment and/or participation during your time teaching CTAE courses or leading CTSO organizations, what changes have you noticed? Also, please elaborate why you think this change occurred - whether it is policy, law, procedure, society, or other.
2. Since you have been a CTAE teacher and/or a CTSO advisor have you observed any changes in the educational characteristics and/or qualities of the students that you teach or are participatory in your organization? Also, please elaborate on how those characteristics and/or qualities may have changed over time-whether it is age, level of student engagement, level of student academic abilities, or other.

APPENDIX C
PARTICIPANT DEMOGRAPHICS

Participant	Years of Service	Teaching Discipline
1	1	Family & Consumer Science
2	3	Business
3	15	Agriculture
4	11	Agriculture
5	7	Healthcare Science
6	8	Agriculture
7	15	Business
8	13	Business
9	3	Business
10	24	Business
11	2	Agriculture
12	15	Business
13	1	Business
14	2	Family & Consumer Science
15	2	Business
16	1	Family & Consumer Science
17	16	Family & Consumer Science
18	13	Engineering
19	13	Agriculture
20	24	Work Based Learning
21	28	Agriculture
22	18	Construction
23	16	Agriculture
24	2	Business
25	3	Agriculture
26	9	Family & Consumer Science